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ABSTRACT

This digest on education and primary health care brings together five articles which offer practical guidelines for action at both policymaking and operational levels. The major emphasis is on the child-to-child approach. Articles concern: (1) suggestions for curricular and cocurricular activities for involving school children in community health; (2) teachers and pupils as health workers; (3) health and nutrition in early childhood development; (4) a guide for a publication on using growth charts in relation to variables affecting children's development; and (5) health care development through community-oriented teacher training. Three appendixes are included. Appendix I lists health related supplies, equipment, and drugs. Appendix II offers a curriculum design for training teachers in health care. Appendix III provides a summary description of the courses in three teacher training centers in Sudan, Papua New Guinea, and Cameroon. (RH)

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Digest 10

Mobilizing Education to Reinforce Primary Health Care

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Child, Family, Community

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- Digest No. 10 Mobilizing Education to Reinforce Primary Health Care, by David Morley, M.V. Joseph, Ananda W.P. Gurugé, Harmen Tiddens, Karin Edström and Fred Katz

Continued on inside back cover

Digest 10

Mobilizing Education
to Reinforce Primary
Health Care

by

David Morley - M.V. Joseph
Ananda W.P. Gurugé - Harmen Tiddens
Karin Edström - Fred Katz

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PREFACE

This Digest which is the first in the Series on the theme of EDUCATION AND PRIMARY HEALTH CARE brings together five articles which offer practical guidelines for action at both the policy-making and the operational levels. The major emphasis is on the CHILD-to-Child Approach, whose most vocal and effective exponent is Dr. David Morely of the Tropical Child Health Unit, Institute of Child Health, London, Britain. While he is the author of articles I and III, the article IV introduces a very useful book written by him with Margaret Woodland.

The efficacy of involving children in primary health care activities in relation to both the younger siblings in the family and the community at large is something of which I am personally convinced on account of my own childhood experiences in Sri Lanka in the mid-1930s. The country was going through the worst malaria epidemic it had experienced and hardly a family - irrespective of socio-economic background - was left untouched.

I recall that even we as children of hardly seven or eight years of age felt the tremendous emphasis that was placed in primary school on health studies and health-related activities. The day began with children lining up for a dose of quinine. Each child had a health checklist - a neat little booklet with a series of questions printed on a folded page and columns for each day of the year. Against each question, I had to be marked if the answer was affirmative and 0 if negative. Questions ranged from cutting nails, brushing teeth, combing hair, bathing, bowel movements, etc. to items of food consumed over the last twenty-four hours. Teachers, assisted by some children, carried out spot checks to ensure that the answers given were, as far as they were verifiable from observation, correct. Every month the children with the highest number of affirmative answers received mention in the school assembly.

The purpose of this exercise was explained as aiding the formation of good health habits. The booklet, which, in those days, costed only a few cents, usually came with the compliments of the booksellers from whom the years' text-books were purchased. Perhaps prompted by the overwhelming reality of the epidemic, teachers as well as pupils took a very serious interest in this work. Looking back over the years, one may even relate the overall national awareness on preventive health in Sri Lanka as reflected by its very low Infant Mortality Rate, high life expectancy and very satisfactory records on immunizations, child spacing, etc., to the transgenerational impact of the exposure that children of the 1930s received.

Another memory of our involvement in health activities as children relates to practical work in the community. Two teachers - Messrs. Atapattu and M.B. Amunugama - were particularly conscientious in designing and executing a series of interesting co-curricular activities and they had anticipated much of what is suggested in this Digest as the CHILD-to-Child Approach. Groups of children were taken to villages around the school to locate places where mosquitoes bred. Uprturned coconut shells and cans were seen to be teeming with larvae. It was our task to overturn them or bury them - a task we took as pleasure and performed with great agility and interest. Within a few minutes, a good part of the village would be with us either watching what we did or joining us in our work. When a good audience had thus gathered, we were made to recite verses which we had learned in class. Sometimes, we enacted a little play. These verses and the plays contained eloquent appeals to adults to do simple things like preventing the accumulation of stagnant water as a means of curbing malaria. As children, we felt very happy that we had a message to be conveyed to our elders. Sometimes, we had an added bonus in being treated by the village to fruits and sweets.

CHILD-to-Child Approach promises similarly rich experiences to children and much success has been already observed where pioneering efforts have been in operation. The field-level experiences related by Dr. Joseph in article II are specially stimulating. The last article describes, with examples from several countries, contents and methodologies used in community-oriented teacher training.

In another Digest, which is currently being edited, further aspects of mobilizing education for primary health care will be elaborated with special attention to the seven-point (GOBI-FFF) child survival and development strategy. It has been prepared by Bushra Jabre, a Unesco and UNICEF staff member, with substantial field experience in the Middle East and the Pacific.

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14 September 1984

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INVOLVING SCHOOL CHILDREN IN COMMUNITY HEALTH: SUGGESTIONS FOR CURRICULAR AND CO-CURRICULAR ACTIVITIES

1. CHILD-to-child PROGRAMME



 * Simple preventive and curative activities *
 * as well as games, play and role-playing can be *
 * taught to the children in school, so that they *
 * may pass ideas on in the family or community *
 * environment. Initiatives and encouragement from *
 * government and other official sources help *
 * support teachers and older children in their *
 * activities. *
 * *****

2. INVOLVEMENT OF SCHOOL CHILDREN

The implementation of the CHILD-to-child Programme in 52 countries was recently evaluated and it was found that 54% of the children who participated in the Programme were school children. Their favourite activities were

 * Learning about Nutrition *
 * Diarrhoea and Dehydration *
 * Health and Hygiene Sessions *
 * Accidents and First Aid *
 * *****

* Weighing and Immunization *
 * Using the Shakir Strip *
 * Looking at the Neighbourhood *
 * Teeth *
 * Eyes *
 * Feeding small Children *
 * Playing with small Children *
 * Health Scouts *
 * Learning about Relationships *
 * Learning about Family Planning *
 * Gathering information on Families *
 * Budgeting family needs *
 * Planting Trees *
 * Playing with children with Handicaps *
 * * * * *

They did these through

* * * * *
 * Games *
 * Role-Playing *
 * Practical Activities *
 * Dancing and Singing *
 * Puppets *
 * Contests and Quizzes *
 * Making Toys *
 * Filmstrips, TV and Radio *
 * Drawing and Painting *
 * Exhibitions *
 * Festivals *
 * Rallies *
 * Making Books *
 * Making Posters *
 * Telling Stories *
 * Having a Library *
 * * * * *

The activity sheets of the CHILD-to-child Programme used in the process were those on

* * * * *
 * Care of children with Diarrhoea *
 * More Healthy Food *
 * Accidents *
 * * * * *

* Our Teeth	* *
* Toys and Games	* *
* Shaker Strip	* *
* Our Neighbourhood	* *
* Handicapped Children	* *
* Health Scouts	* *
* Let's find out how well children	* *
See and Hear	* *
* Caring for children who are Sick	* *
* Our Babies Growing Up	* *
* Playing with Younger Children	* *



3. WHY INVOLVE SCHOOL CHILDREN?

A healthy community is a strong and happy one. A community is healthy when the people who live in it:

- understand what they need to be healthy;
- know what services are available and how to use them well; and
- care about the health of everyone else.

* Children can help in making their com- *
* munity a better place to live in and this *
* activity sheet shows some ways in which *
* children can do this, for instance by: *
* - finding out about the health care resources *
* in their own community; *
* - passing on to their families and others *
* important health information; *
* - caring about the health of others, par- *
* ticularly children who live near them, by *
* helping their families make the best use of *
* available health services. *

WHO COULD INTRODUCE THE ACTIVITY TO CHILDREN?

- teachers of children in the upper classes of primary schools;
- youth leaders, who can also make use of health badges in organizations that have badge schemes, such as the Boy Scouts;
- health workers and others working in community health programmes.

NOTE: Teachers and health workers can plan this activity together. Parents should be told what their children are doing and why.

4. ACTIVITY 1: SCHOOL CHILDREN AS HEALTH SCOUTS

(A) FINDING OUT ABOUT THE HEALTH NEEDS OF THE COMMUNITY

Surveys or 'find out' projects give the children practice in collecting health information and making good use of it. Children can find out about the health conditions of babies and young children in their community.

* *Illness and deaths from diseases like tubercu-* *
* *losis, diphtheria, whooping cough, tetanus,* *
* *poliomyelitis and measles can be prevented if* *
* *babies and young children are immunised.* *

An important survey that children can make is to find out which children in their community have been immunised against these diseases.

Before carrying out the survey discuss with the children

- the reasons for immunisation;
- which immunisations are common in your area?
- who provides them?

To carry out the survey the children could make a record chart for babies and young children near them, with symbols for each of the most commonly given immunisations, e.g.

BCG	- which protects against tuberculosis
DPT	- which protects against diphtheria, whooping cough and tetanus
Polio	- which protects against poliomyelitis
Measles	- which protects against measles.

WHO has been IMMUNISED ?				
Names				
1	Arthur SSOMBO	✓	✓	✓
2	James KWARUKA		✓	
3	Helen KUBIRIGE	✓	✓	
4	Sunday MURAGATA	✓	✓	
5	Fayce NAAMA			
▲	BCG	protects against Tuberculosis		
■	DPT	protects against Diphtheria, Pertussis (Whooping Cough) Tetanus		
●	Polio	protects against Poliomyelitis		
◆	Measles	protects against Measles		

Children can find out about children in their own families and can be made responsible for several households near them. They will need to ask parents what immunisations the children have had.

 * From this survey the children will have found *
 * out which babies and young children need to be *
 * immunised. Older children can tell mothers *
 * about immunisation clinics and they can tell *
 * the health worker which babies need to be *
 * immunised. *
 * *****

(B) FINDING OUT ABOUT THE HEALTH SERVICES AVAILABLE TO THE COMMUNITY

Often in a community there are many people with different kinds of health knowledge:

- some people know how to make herb teas;
- there are women who help at childbirth;
- often someone knows about first aid;
- the various trained health workers.

Where can we get help quickly and which of these people is the best one to help? This information is very useful for all of us but often we do not have it.

 * Children can find out about all the people in *
 * their community with some special health *
 * knowledge; *
 * - where they can be found; *
 * - what their special health knowledge is; *
 * - who is the best person to go to. *
 * *****

* Discuss these things with the children and let *
 * them make a list of all the people in their *
 * community who have some special health knowl- *
 * edge: e.g. clinic sister, midwife, herbalist. *
 * *****

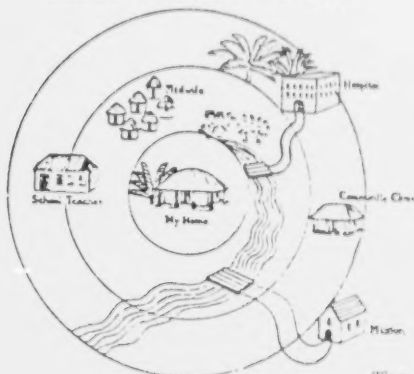
They can discuss their lists with each other, and
 decide who they should go to for the different
 sicknesses that occur locally.

 * The children can make a health services *
 * map of their community. On it they can mark *
 * where to go for help and work out the travel- *
 * ling time needed to get to each health helper. *
 * They can find out when and where special *
 * clinics are held. *
 * *****

The children could play games using their maps and
 asking each other, for instance, "If somebody gets
 burnt by the cooking fire, who will you get to help
 and how long will it take?"

Children can pass this information on by making a
 play about getting help from different people, and
 show it at a village meeting or on clinic days.

HEALTH MAP FOR OUR VILLAGE



The circles
 represent each hour's
 walk from School or
 Home

(C) TELLING OTHERS ABOUT HEALTH SERVICES

Children can learn to pass on health information to parents, health workers and others. For example

- Children can 'adopt' a newborn baby in the family or community, and make a vaccination card to remind the mother when the baby is due to be immunised.
- Health workers can tell the school when they are to hold a clinic in the village, and school children can visit homes in the area the day before the clinic to tell families the correct time and place. Each child can be responsible for telling several households.



* Each older child can be a health leader *
* for a few households, and tell the health *
* worker where help is needed, or pass on infor- *
* mation from the health worker to the household. *

(D) HELPING TO CARE FOR THE HEALTH OF OTHERS

There are many ways in which children can help in looking after the health of other children. For example, they can become helpers at the health

clinic. Teachers and health workers would need to plan this together, but some ways in which children can help are:

- weighing babies and filling in charts;
- organizing play groups for children waiting with their mothers. Toys and games could be made and brought along to amuse young children;
- acting as interpreter for mothers and health workers, to pass on instructions for feeding programmes or treatments;
- helping to cook at feeding demonstrations;
- helping to clean up at the clinic.

Other ways for older children to be health helpers might be to:

- run simple first aid clinics at school;
- make toys and games for child minders;
- prepare food for younger children at school;
- bring young children to the clinic;
- 'adopt' a younger child in the school and notice when he/she is sick or needs treatment for sores;
- make health posters and notices.



(E) OTHER ACTIVITIES FOR CHILDREN

Other surveys which children can carry out:

- find out where diseases occur in the area. They pass on the information to health workers, or use it as a basis for a health campaign. Who have been sick or had an accident in the past year? What sickness did they have? What time of the year was it? How often did they have it?
- find out about local medicines; what plants are used? Who knows how to make up the medicine? When is it used?

5. ACTIVITY II: OBSERVING EARLY SIGNS OF ILLNESS

Young children often fall ill suddenly and cannot tell older people what they feel.

Older children often notice early signs of illness while they are in charge of babies and young children. If they can learn which SIGNS are more dangerous, they can tell the RIGHT PERSON and prevent unnecessary suffering and even death.

If a child knows how a health baby behaves and looks, he will know more easily when a child is ill.

1. **BEHAVIOUR:** a healthy baby is active, playful, sucks at the breast or eats well and is interested in what goes on around.
2. **APPEARANCE:** the healthy baby has strong arms and legs, bright eyes and firm smooth skin.

(A) *OBSERVATION OF HEALTHY CHILDREN*

1. Older children can observe healthy babies, notice what they do when they see a bright object or hear a loud noise.
2. Older children can observe the young child's arms, legs, eyes, ears, nose, belly and see how they look, feel and smell.
3. Observe how often a baby sucks at the breast or eats.



(B) *OBSERVE SIGNS OF ILLNESS*

Children can use all their senses to observe SIGNS OF ILLNESS.

EYES

WITH THEIR EYES CHILDREN CAN SEE

Loss of interest, child does not want to play.
Not eating or sucking well.
Rashes, lumps and swellings.
Red and sore eyes.
Sores and cuts.
Shaking, fits or sudden strange movements.
Diarrhoea and/or vomiting.
Rapid breathing.
Changes of skin colour.
Unusual drowsiness or delirium.

Stiffness in neck and limbs.
Pain when a particular part is moved.

EARS

WITH THEIR EARS CHILDREN CAN HEAR

An altered cry.
Difficult breathing.
Coughing and wheezing.

NOSE

WITH THEIR NOSE CHILDREN CAN SMELL

Smelly sores.
Smelly ears.
Watery stools that smell bad.

HANDS

WITH THEIR HANDS CHILDREN CAN FEEL

Fever.
Very thin arms.
Skin that remains wrinkled after it has been
pinched.

* It is important for children to recognize *
* different types of BREATHING. *
* *
* Example: PNEUMONIA, causes young children to *
* have fast, shallow breathing. The child *
* takes small breaths. *
* *
* In other illnesses the kind of breathing can *
* be: fast, noisy, gasping, coughing, whooping, *
* wheezing. *
* *****

PARTICULAR DANGER SIGNS

Sometimes signs of illness are very common, children should learn which ones are the most dangerous and when immediate action needs to be taken.

Examples:

1. very rapid or noisy breathing
2. fever which lasts more than 3 days
3. blood in urine, stools or sputum
4. delirium, high fever.

Sometimes there are several signs together.

Examples:

1. vomiting, many loose stools and wrinkled skin (dehydration, diarrhoea or cholera)
 2. fever, rash and many eyes (measles)
 3. vomiting, crying, fever and stiff neck (meningitis)
 4. vomiting and cough ending in whoop (whooping cough)
- *****



6. ACTIVITY III: FINDING OUT HOW WELL CHILDREN SEE AND HEAR

* Some children cannot see or hear as well as others. Often we do not know about these children who may not say anything about it. Because they do not hear the teacher or see the blackboard, they may not learn as quickly as other children. Sometimes they will keep quiet and hide in a corner. Letting them sit close to the teacher can help. Babies who do not hear well do not learn to talk or understand as early as others. School children can learn to find out which babies and small children need help.

(A) *HELPING CHILDREN UNDERSTAND*

- One way to get children to think about problems of SEEING or HEARING is to ask questions like:

"Do you know anybody who does not see or hear well?"

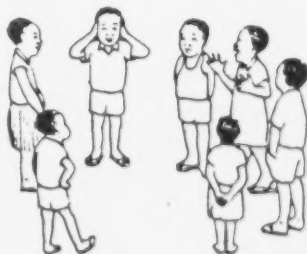
"Do you act differently with these people?"

"What do you do?"

"How would you feel if you did not see well?"

"... or hear well?"

- Children can invent games to learn the difficulties of children who cannot see well. For example, they could play a game in which one child is blindfolded and



he then tries to recognize his friends by feeling them.

- A blindfolded child can also try to find his way from one place to another. Let him describe how he feels.

Games often help children better, for example:

1. Have one child plug his ears while another tells a funny story to the group. One child pretends to be the teacher and asks all the children to answer questions about the story. Can the child whose ears are plugged answer the questions?
2. Children of all ages stand in a circle. One child stands in the middle with his eyes covered. Around his feet are small stones or other objects. Some of the other children try to creep up and steal these objects. If the child in the middle hears the "thief" and points to him the thief has to go out of the game. The winner is the one who steals most without being heard.



(B) TESTING CHILDREN'S EYESIGHT

Older children can help to make an eye chart like this:

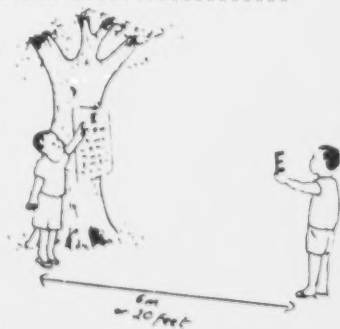


Each child can make an E shape of the right measurement and glue it onto the chart. The teacher can make a stencil to get the right size.

Also make another large E shape out of cardboard or other stiff material. First let the children test each other. Hang the chart where the light is good. Make a line about 6 metres from the chart. The child being tested stands behind this line with the large cardboard E. Another child points to the different shapes on the chart. The one being tested must hold up his E in the same direction as the one pointed to by his friend.

* When the children know how to give the test, *
* help them think of ways to give the test to *
* young children, especially those who will soon *
* be going to school. At school the children in *
* the higher grades can test the sight of those *
* in the lower grades. *

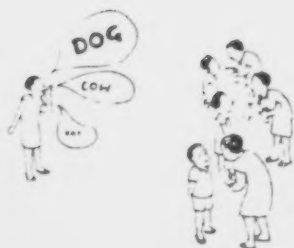
If the child can see the letters on the BOTTOM 3 LINES EASILY, he sees well. If he has trouble SEEING ANY OF THE TOP 3 LINES he sees poorly. It will help him to sit near the front of the class. His friends may need to help him sometimes. If possible he



should go to the health worker for more tests. The child may need glasses. If the child sees poorly and has red, infected eyes, he may have an eye disease. The activity sheet, "Looking after Eyes" may help.

(C) *TESTING CHILDREN'S HEARING*

This can be done as a game. Here is an example:



1. Let young children about to enter school stand in a line.
2. Each young child has an older child with a pencil and paper to help him.
3. Another older child stands several metres behind the young ones.
4. This older one then calls out the name of an animal VERY LOUDLY.
5. Each young child whispers the name to his helper who writes it down.
6. The older child again says the name of other animals. Each time he says the name he makes voice softer, until he is whispering.
7. The young children tell their helper what they hear.

The helpers write it down.

After about 10 animals, the helpers compare their lists to see what the younger children have heard.

If any child hears fewer names than others, he may have a *hearing* problem. Let him sit in the front of the class. If possible he should be examined by a health worker especially if he has pus in an ear or frequent ear-ache.

* HERE ARE SOME SIGNS WHICH MAY SHOW THAT A CHILD *
* DOES NOT HEAR WELL *

- * - The child speaks rather loudly *
 - * - He turns his head in one direction in order *
 - * to hear *
 - * - He fails to answer questions because he does *
 - * not seem to hear *
 - * - The child watches people's lips when they are *
 - * talking *
 - * - Sometimes a child appears to be quiet, sullen *
 - * even made. It may be that he does not hear *
 - * well and NEEDS HELP. *
- *****

(D) TESTING BABIES' HEARING

What can children do to find out how well the babies in their families can hear?

- They can play games with their baby brothers and sisters. For example, they can make a rattle from seeds or small stones. They can creep up quietly behind the baby's head and see if it turns its head.
- They can call out the baby's name from different places in the room. If the baby does not seem surprised or does not turn his head towards the noise, he is probably not hearing well. He may need to be taken to the health worker to have his hearing properly tested.

How can children help look after the ears of brothers and sisters?

- They can regularly look in the ears of their brothers and sisters to see that there is no pus or dirt or small object in them. If they see anything

wrong they should tell an older person who should take the child to a health worker for help.

- Big children calling to little children or shaking a rattle behind their head.

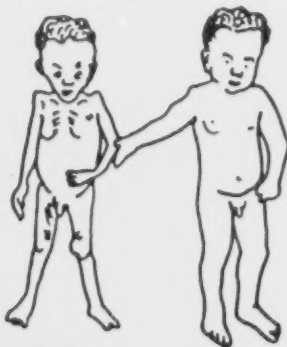
SOME HEARING GAMES FOR CHILDREN TO PLAY

The children may think of other games to play with babies such as:

- Singing songs to babies and teaching them to young children.
 - Telling stories and changing the voice to sound like different people in the story (loud, soft, angry).
- *****

7. ACTIVITY IV: FINDING OUT MORE HEALTHY FOOD FOR BABIES AND CHILDREN

CHILDREN NEED PLENTY OF FOOD. THEY NEED THE RIGHT KINDS OF FOOD. THEY NEED FOOD IN ORDER TO GROW, TO BE ACTIVE AND TO LEARN. IF THEY DO NOT EAT ENOUGH FOOD, THEY GET THIN AND ARE OFTEN ILL. BABIES ESPECIALLY NEED ENOUGH HEALTHY FOOD TO GROW, LEARN AND BE ACTIVE



This child is thin, often ill and miserable. What is wrong?

This child is well-fed, healthy and happy.

Yet it can be difficult for children to eat enough of the staple food to get all the energy they need. We need energy for every activity, people who work very hard (e.g. cutting sugar cane) need more energy. But we also need some

energy to grow and to keep our hearts going. A 2-year old child needs to eat 8-12 cupfuls of cooked food (e.g. maize or rice) each day, to get all the energy he needs. This is a lot of food in volume. It may be too bulky. He probably cannot eat so much food. So, he should also eat food which is high in energy. What does this mean?

This much cooking oil gives as much energy as



this much sugar, which gives as much energy as



this much cooked rice



We may say that the cooking oil and the sugar are high-energy foods. Young children need to eat some high-energy foods as well as their staple food. In this way, they do not have to eat so much bulk.

Examples of high-energy foods are sugar, palm oil, fat, coconut oil and ground nuts. There are many others too.

In this activity, three main ideas are emphasised:

1. The importance of BREAST FEEDING. Breast milk is the best food for baby.
2. From the age of four months, children need to eat MANY FOODS, not just the staple

food, but they *MUST* continue breast feeding for about two years.

3. Choose foods which have been *COOKED IN OIL* or fat.

OBSERVING THE CONNECTION BETWEEN FOOD AND GROWING

(i) THEY CAN LOOK AFTER AN ANIMAL

For example, they could follow the difference in growth of two caterpillars. One is given plenty of leaves, and the other is seldom fed. Fly larvae or any other larvae found locally could also be used for this.



This caterpillar has eaten enough



This caterpillar has not eaten enough

After several days, the difference in growth can be compared and discussed. The children can see how quickly the well-fed animal grows.

CHILDREN COULD MEASURE THE HEIGHTS OF THEIR YOUNGER BROTHERS AND SISTERS

They can mark the heights on a wall at home. For measuring use a book on his head.

If the child's name and the date are written against the mark, the child can be measured six months or a year later, and the children

* can observe their growth. *

* Children grow well if they eat enough healthy *

* foods. *

- (ii) EACH CHILD COULD FIND OUT AT HOME WHAT HIS YOUNGER BROTHER OR SISTER EATS DURING ONE DAY

He could find out what his brother or sister ate yesterday or today. These findings could be used for talking about many things. Look at different age-groups:

Compare - their sizes
 - the kinds of food they eat
 - how much food they eat.

Ask one of the children who has a brother or sister less than a month old to describe the baby, his activity and size. (If at all possible, ask one or two mothers to bring their babies to the class). Then describe a baby 3-4 months old and discuss with the children the difference in size and activity.

* Do they realise that this growth is due to *

* BREAST MILK? Breast milk is important to *

* help babies grow. It is important not only *

* for the first three months, but until the *

* child is 2 years older. *

* Another child could describe the food of a *

* child between six and nine months old. *

* Emphasize again that from 3 months onwards *

* until about 2 years, breast milk is still *

* needed but other foods are essential. *

A two-year old needs half as much food as an adult. However, the two-year old only has a small stomach and he cannot eat the large meals an adult eats. To show the children this, we could cook the food a two-year old needs. If possible cook up one of the following measures of dry food.

cassava flour	2 cups
or maize flour	2 cups
or rice	1½ cups
or sorghum flour	2 cups
or yam flour	2½ cups

Show this to the children. Let them decide how much one of their two-year old brothers or sisters can eat.

Show that the child will need to eat alot, many times a day to eat all that has been cooked. Then suggest that, by using a mixture of foods, the child may not need to eat so much. For example, a tablespoon of oil will replace ½ of a cup of rice.

 * From this activity, the children will see that *
 * small children need to eat as much energy food *
 * as they can during 3-4 meals a day. If poss- *
 * ible, they should eat more than one kind of *
 * energy food, e.g. beans, peas or dahl, together *
 * with some oil. The oil may be mixed in with *
 * the food or the food may be fried in it. Also, *
 * ground nuts can be mixed in with the staple *
 * food. Remember, too, that children need leafy *
 * vegetables and fruits often. *
 * *****

(iii) FEEDING CHILDREN WHEN THEY ARE UNWELL

Children who have fever or any other illness need more food than children who are well. Discuss with the children a brother or sister who has been ill, find out if the child ate less and whether he became thin. To try to prevent children who are ill getting thin, we need to encourage them to eat often and as much as possible. Just as soon as the fever goes, or the illness is better, the child will need to eat even more food than usual.

 * When a child is ill, he should have drinks *
 * with sugar in it, and any easily eaten soft *
 * food that is available. The child should be *
 * encouraged to eat many times each day. *

(iv) OTHER ACTIVITIES

There are many activities which can help children to understand more about healthy foods. These are some examples:

1. Children could make model fruits and vegetables from clay, leaves or other materials. With these a 'market' could be set up. Children could make play money to buy food for the family. They could plan and buy the "best diet" for their family. They could plan the cheapest healthy menu.
2. Children could visit the local market to observe prices of foods here. They could plan a menu of the foods available in the market.
3. Children could plan and cook healthy meals at school. This could take the form of:
eating breakfast together at school, e.g. once a week, Grades 3-6 could take it in turn to cook for each other. Costs could be covered by children bringing one helping of staple food, or making small contributions for the protein dish and for vegetables (if not available from the school garden);
cooking and selling healthy snacks.
4. Young children could be encouraged to plant a quick-growing fruit tree, e.g. paw-paw, in a pot or similar container. They could watch it grow. They could then plant it in their garden at home.
5. Each class could plant vegetables and fruit trees in the schoolyard or on neighbouring land. The produce could be taken home, used in school meals, sold and so on.
6. The school could take care of fish or eels in ponds in the grounds.

7. Each class in the school could measure the height and weights of everyone in the class. Grades 5 and 6 could also help measure the younger children. All these measurements should be written up on a poster on the wall. This activity can be carried out every 3 months and results compared.
8. Children could take their younger brothers and sisters who are under 5 to be weighed each month.

8. ACTIVITY V: MEASURING MALNUTRITION

People living in villages often understand little about malnutrition but they know that children with very thin arms and legs have had too little to eat. A very good way to see if children with thin arms and legs have had enough of the right kind of food is to measure round the upper arm. The Shakir strip is a simple way to do this.

ARM CIRCUMFERENCE IN SMALL CHILDREN

When babies are about one year old they have quite a lot of fat under the skin of their arms. When they are five this fat is not there but there is much more muscle. This means that the circumference of the upper arm is almost the same between the ages of one and five years. (Fig. 1)

AN ARM-CIRCUMFERENCE-FOR-AGE GRAPH

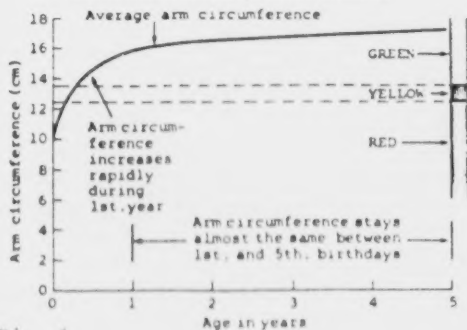


Fig. 1

* If we measure the middle of the upper arm *
 * of children between the ages of one and *
 * five we can find the malnourished children. *
 * Malnutrition is most common at this age. *
 * * * * *

MAKING THE MEASUREMENT

Tape measures are not always available and for many people understanding numbers is difficult. Instead people in many countries use a piece of string or a strip of material which does not stretch. Old x-ray film is very good. Figure 2 shows how to make it and how to use it on the child.

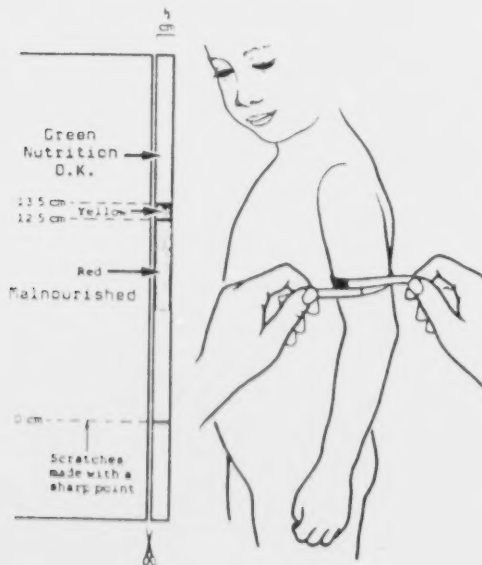


Fig. 2

* MAKING THE SHAKIR STRIP *

Most hospitals or clinics have old x-ray films. You have to remove the emulsion from the film. To do this soak the film all night in strong washing soda or diluted bleach. When all the emulsion is off you will have a clear sheet of plastic. Scratch the plastic with a sharp point in three places at 0, 12.5 and 13.5 cm (Fig. 2). Use the sharp point to make one single line. Colour both sides of the film and use a spirit felt pen. The spirit pen smells. The water ones do not last on the film.

USING THE STRIP

First make sure the child is more than one and less than five years old. Let the child's arm hang loosely by its side and place the strip round the middle of the upper arm. (see Fig. 2) Look and see if the scratch comes in the green, yellow or red colours.

If in the green the child is well nourished.

If in the yellow the child is probably malnourished.

If in the red the child is malnourished.

This is an accurate way of finding malnutrition. (It is better than a SINGLE weight for age measurement.) The strip is as good in showing the nutritional state of children as experienced children's doctors.

TEACHING HOW TO USE THE SHAKIR STRIP

It is best to show people how to use the strip with some children. If some of the children are malnourished, people will quickly see how to make the measurement. Otherwise we can measure something else. School children can measure their wrists. Another way is to have some cardboard tubes like the ones in the

middle of toilet rolls. Cut these and make them bigger or smaller by adding strips of other tubes. You can make a number of these tubes and put the local names of children on them. (Fig. 3)

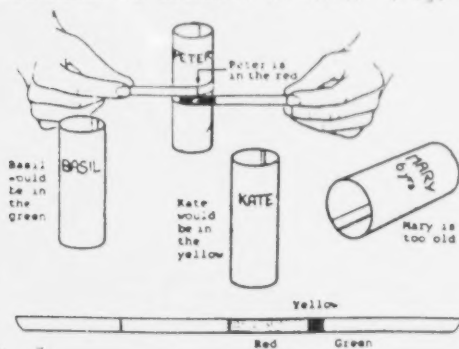


Fig. 3

It is easier for the teacher if all tubes which measure more than 13.5 cm (in the green) have names up to H in the alphabet and tubes between 12.5 and 13.5 (in the yellow) have names between H and L. Names beginning with M are for tubes on which the age of children over five and under one are written. Do not measure these. Use the rest of the alphabet for tubes under 12.5 cm (in the red).

EXPLAINING THE RESULTS OF THE MEASUREMENTS

If the strip is held in a circle with the scratch just in the red most people will see this is very thin for a child's arm. School children will understand what to do if they practice in school first and with their younger brothers and sisters. When they know what to do they can make measurements and tell parents or grown-ups about them.

9. ACTIVITY VI: CARING FOR CHILDREN WHO ARE SICK

(A) WHAT CAN THE OLDER CHILD DO FOR THE SICK CHILD?

LIQUIDS: The sick child needs to *drink* a lot.

* The older child can give him CLEAN DRINKS
* such as weak tea, juices or soups. If he
* is passing a lot of stools and vomiting,
* he may need the special drink for diarrhoea.

FOOD: Although the sick child may not seem to be hungry, he should be helped to try to eat.

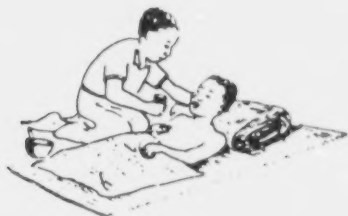
* It is very important that sick children are
* given some food to help their bodies fight
* the illness. A sick child who has no food
* becomes weaker and will take longer to get
* better.

* The older child can help to prepare soft
* mashed foods such as banana, paw-paw or
* beans with a little oil added. It is
* often better to give MANY SMALL MEALS.
* Help feed the sick child but be careful
* that he DOES NOT CHOKE.

COMFORT AND CARE: The sick child needs to rest in a QUIET, CLEAN place. Where possible, let light and fresh air in, but keep away flies, insects and animals. If it is very hot, fan the child or bathe with a cool, damp cloth.

* If the child is VOMITING help him to lie
* ON HIS SIDE. Then he will not choke on
* his vomit which can be dangerous. Chil-
* dren who are very sick and DO NOT MOVE
* MUCH, need to be turned regularly. The
* older child can rub the ELBOWS, HEELS and
* BUTTOCKS from time time to prevent them
* from getting sore. If the child is
* having GREAT difficulty in BREATHING he
* may feel more comfortable if he is raised
* up rather than lying flat.

* IT IS VERY IMPORTANT TO COMFORT the sick *
 * child with words, stories and songs. It *
 * may even help if the older child holds him. *
 * He needs to have someone with him. *
 * *****



If the sick child has a *VERY HIGH FEVER* it might
 help to *BATHE* the body with a soft cool and damp
 cloth.

 * DO NOT WRAP the child's body tightly with *
 * many cloths or clothes. This makes him *
 * hotter and may increase the possibility of *
 * fits and brain damage from very high *
 * temperature. *
 * *****



ALWAYS WASH YOUR HANDS

REMEMBER: When the child starts to get *BETTER* he
 needs *EXTRA* foods, liquids and care. He will go on
 needing help until he is quite well again.

* BUT keep babies and small children away *
* from sick children if possible. *

(B) CLEANLINESS

Another thing the older child can learn is how to keep the sick child clean.

1. CLOTHES: When a child is sick, he sometimes vomits, passes water and stools where he is lying.

* The older child can help by *
* taking the dirty cloths and *
* clothes and washing them in *
* a separate place as soon as *
* possible. Keep them away *
* from the rest of the family *
* washing and places where *
* people draw water for *
* drinking. *

2. SKIN: It is important to wash the sick child's skin with clean, warm water. This stops it from becoming dirty and infected and making the child more ill. If the child wants to scratch the skin, try to help it not to damage itself.
3. EYES, NOSE and MOUTH: These should be kept as clean as possible by bathing with CLEAN, COOL WATER. This will prevent more infection. If the mouth is sticky or dirty from vomit it can be rinsed. A little cooking oil can be used to moisten dry and cracked lips.

(C) ACTIVITIES IN SCHOOL

The teacher or health worker can ask the children questions about how it feels to be sick. For example:

- When were you ill?
- How did you feel?
- What did others do for you?
- When did you feel better?
- Has any other child in your family been ill?
- Who looked after him?
- What did your mother say?

Children should be shown the correct way to sponge and wash a sick child. They can be encouraged to practice on a doll or on each other.

Ask children to press their elbows on the table, desk or door for a few minutes then see if the elbows feel sore. This will help to explain pressure sores.

One child can have its temperature felt by placing hands on the forehead. The child can then be wrapped up in clothes tightly for a time. Ask the child how he now feels and see if his forehead feels hotter.

Food can be mashed and passed down a tube of bamboo or through a narrow-necked bottle. Let the children see how soft food goes down easily whereas hard or lumpy food sticks.

Find out who cares for sick people locally and how they do so.

A play or story can be acted to show how others cared for a sick child. Or one child can show other children what he did when one of the younger children was ill at home. Or several children play the part of all the people in the family and show what they do when a little child is ill.

Card games, posters and strip cartoons can be made by the children to show the stages of an illness and what care was given.

10. ACTIVITY VII: CARE OF CHILDREN WITH DIARRHOEA

- * * * * *
- * *Diarrhoea means frequent, watery stools.* *
- * *Often children with diarrhoea also have* *
- * * * * *

vomiting and a swollen belly with cramps.
The stools smell different.

In many areas, diarrhoea is the most common cause of death in small children, and is especially frequent in babies between 6 months and two years. It is more common and more dangerous in children who are malnourished, and bottle-fed babies have diarrhoea six times more often than breast-fed ones. Diarrhoea is less common if there is piped water in the house.

Therefore, a lot of diarrhoea can be prevented by:

- breast-feeding babies for as long as possible;
- good nutrition in general;
- cleanliness and the use of piped water wherever possible.

Children who die of diarrhoea usually die because their bodies lose too much water. This loss of water is called dehydration. Therefore, the most important part of treatment is to replace the water lost through diarrhoea and vomiting. Medicines are often not very effective, but anything that puts water back into the child, like mild herbal teas, helps to fight dehydration, which is the most dangerous consequence of diarrhoea. Also, children with diarrhoea must be given food if they can take it, to help their bodies fight the sickness.

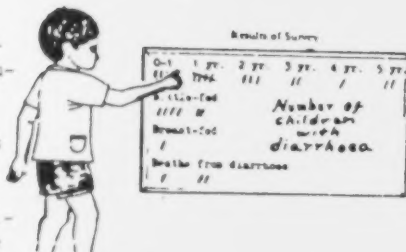
An even better way than just water or herbal teas is the Special Drink, which is water with some sugar and salt dissolved in it. Children can easily learn how to make it, and so can help to treat diarrhoea in their younger brothers and sisters or other babies near them.

To sum up, children with diarrhoea

- must be fed well
- must be given lots to drink.

(A) FIND OUT HOW COMMON AND DANGEROUS DIARRHOEA IS

- (a) The children can gather information themselves. They can find out how many times their younger brothers and sisters had diarrhoea in the last year (or

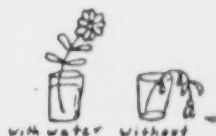


during the last rainy season, or since some big festivities, if they do not think in terms of years). By counting how many times children of different ages had diarrhoea, they can discover at what ages it is most common.

- (b) Also, by counting how many times breast-fed babies get diarrhoea as compared with bottle-fed babies, perhaps the children will find out that breast-feeding helps prevent diarrhoea.
- (c) Also find out how many children have died from diarrhoea. All this information not only helps the children learn; they can use it later to find if their different health activities have made a difference.

(B) UNDERSTAND DEHYDRATION AND LEARN HOW TO PREVENT IT

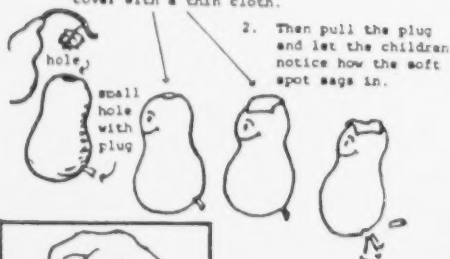
To help the children understand, explain how all living things contain a lot of water. For example, if they bring two cut plants to school, and put one in water, the other not, they will see that one will wilt. A baby with diarrhoea loses water much faster than a plant that has not been put in water.



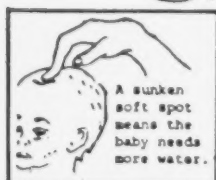
SIGNS OF DEHYDRATION IN CHILDREN

In many countries people associate diarrhoea with the sagging of the soft spot (fontanelle) on top of a baby's head. To show how this results from dehydration, a gourd, old ball, or something similar can be used:

1. Fill the gourd with water to the brim and cover with a thin cloth.



2. Then pull the plug and let the children notice how the soft spot sags in.



A sunken soft spot means the baby needs more water.

3. Ask the children why this 'soft spot' sags and what the baby needs. Perhaps they can make pictures or posters to let others know too.

Other signs of dehydration, which are easily understandable from the basic lack of water in the sick child's body, are:

- little or no urine; urine dark yellow
- dry mouth
- sunken, tearless eyes
- sunken soft spot (in babies)
- skin loses its stretchiness



If you lift up the skin and you can still see the fold after you let go, the child is dehydrated.



Many of the herbal teas and soups that mothers give to children with diarrhoea do a lot of good because they help get water back into the child. Breast-feeding provides both water and food and should always be continued.



Demonstrations help children understand how important it is to give a child with diarrhoea as much water as he is losing. For example:



As long as just as much water is put back as that which is lost, the water level will not go down (so the child will not get dehydrated).

A child with diarrhoea needs 1 glass of liquid for each time he has a loose stool.

Giving lots of liquid to a child with diarrhoea may at first increase the amount of diarrhoea. This is all right. *THE DIRTY WATER MUST COME OUT.* The important thing is to be sure that the child drinks as much liquid as he loses.

(C) THE SPECIAL DRINK

HOW TO MIX IT

The Special Drink, made from SUGAR, SALT and WATER is especially good for children (or adults) with diarrhoea. It is simple to make:

MIX: SUGAR + SALT + WATER



one level
teaspoonful
of sugar



a little salt
at the end of
a spoon



+ one glass
of water



OR a scoop of
sugar

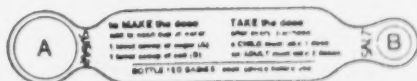


+ a pinch of
salt



+ one glass
of water

A special plastic spoon will be available. Use this to teach everyone the right amount of sugar and salt for each glass or cup.



BEFORE GIVING THE DRINK TASTE IT - IT SHOULD BE NO MORE SALTY THAN TEARS.

HOW TO GIVE THE SPECIAL DRINK

Start giving the Special Drink **AS SOON AS** diarrhoea begins. A child should drink one glass for each stool he passes.

If the child vomits the drink, keep giving him more. A little of it will stay in his stomach. Give it in sips every 2 or 3 minutes. If the child does not want to drink, gently insist or coax him to do so.



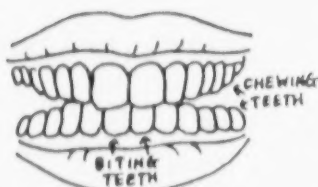
(D) LEARN TO RECOGNIZE WARNING SIGNS

Take the child with diarrhoea to the health centre if he:

1. SHOWS ANY OF THE SIGNS OF DEHYDRATION
2. Cannot or will not drink
3. Vomits so much he cannot drink
4. Makes no urine for 6 hours (time from dawn to noon, or noon to dark)
5. Has diarrhoea so often he cannot drink one glass per stool
6. Has blood in his stool
7. Diarrhoea lasts more than 2 days.

11. ACTIVITY VIII: CARE OF TEETH

* Why do we need teeth? We need them for: *
* - biting and chewing our food; *
* - smiling and looking good. A person with *
* shining, whole teeth looks happy and *
* attractive. *
* Our teeth must carry out two functions - *
* both biting and chewing. Therefore we *
* have two types of teeth: the front ones are *
* for biting, the back ones are for chewing. *
* Having good healthy teeth allows people to *
* eat a wide variety of foods. Teeth also *
* give pleasure in biting into foods. They *
* make you look attractive and they help you *
* to speak clearly. *
* Some children's teeth decay and get brown *
* and black holes which look ugly. The holes *
* are small at first, but if not filled by a *
* dental worker they turn into big holes. *
* These children then have frequent toothaches, *
* and may even have a boil or abscess in the *
* gums. The teeth are then so rotten that they *
* must be taken out. *
* It is very important that we try to prevent *
* this from happening. It is not difficult. *



Children should understand the importance of caring for their teeth. They should brush their teeth with a brush or a brush-stick. They should not eat too many sweet foods or fizzy drinks which may rot teeth.

(A) LOOKING AT TEETH

- (a) Children could look at the teeth of
- their younger brothers and sisters
 - older children
 - babies
 - children of the same age
 - adults.

Encourage them to count the number of teeth in a person's mouth. Do all children have the same number of teeth? What is the greatest number of teeth in a mouth? How many teeth do babies have? When do the first teeth appear? Do the children recognize that there are different kinds of teeth? What other things do they notice? They could make drawings to show the number and arrangement of teeth in the top and bottom jaws.

- (b) BACK AT SCHOOL their findings could be discussed and recorded. Children should be able to say why teeth are important. They are needed for biting and chewing. Good teeth help us to look nice. Can they imagine what it is like to have no teeth? What problems has a person with no teeth?

(c) Discuss the different kinds of teeth. Maybe the children can work out the jobs of the different teeth. It may help to bring teeth from different animals to school. The children could look for skulls of dead animals. Are the teeth of animals different? How are they different? Why are they different? Do the children understand that some animals, e.g. dogs, eat meat, whereas other animals, e.g. cows, eat grass? Sharp teeth are for biting and chewing. Short teeth are for grinding and chewing.

 * Children should understand that they get *
 * two sets of teeth in their life. The first *
 * set begins to fall out between the ages of *
 * 5 and 8. The second set is their last set! *
 * They will get no more. Did they notice *
 * that some children had gaps when they *
 * looked into their mouths? *
 * *****

(B) UNDERSTAND WHAT CAN GO WRONG WITH TEETH

When children were looking at teeth, did they notice that some teeth were black? Did they notice that some teeth have holes in them? Such teeth have decay. They are rotting.



The hole needs to be filled by a dental worker. This may not be possible. The children could suggest local pain killers to put on the tooth. This does not stop the tooth from rotting.

(C) LEARN WHAT CAUSES TEETH TO GO ROTTEN

A lot of sweet food, e.g. cakes, fizzy drinks and sweets, is not food for teeth. Here is a simple experiment:

Find two teeth (e.g. use teeth from children whose first set is falling out). Drop one in a fizzy drink (e.g. 'Coca-Cola') and the other in water. Leave them for two weeks. The tooth in the fizzy drink gets soft and you can scrape some of it off with a sharp instrument. The tooth in water stays healthy.

Ask if any children have smaller baby brothers and sisters who are bottle-fed. Sometimes older brothers and sisters are given sugary water in a bottle. This is not good for the teeth if the baby sucks the bottle.

(D) UNDERSTAND BRUSHING TEETH

* The children could discuss why they think *
* it is necessary to brush teeth every day. *
* They could also say WHEN they think teeth *
* should be brushed. They should be brushed *
* at the same time as children wash their *
* faces, that is, in the morning and the last *
* thing at night, before going to sleep. *

Each child could make a brushstick, which looks like this.



Use the twig of a tree.

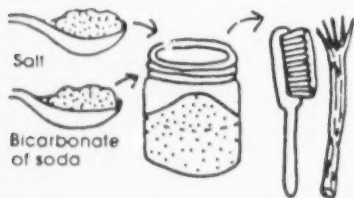
Chew on this end and use the fibres as a brush.

Toothbrushes could be used if available. Practice using the stick or toothbrush. It must clean all the surfaces of the teeth and the children should brush up and down or from side to side, whichever suits them best.

The children could bring their brushsticks or toothbrushes to school each day and brush their teeth together before school.

They could make a brushstick for their younger brothers or sisters at home and teach them how to brush their teeth well.

The children could learn to make 'toothpaste'. They can make a tooth powder by mixing salt and bicarbonate of soda in equal amounts. Just plain salt can be used.



To make it stick, wet the brush or stick before putting it in the powder.

In some areas fluoride is put in the community's drinking water so that everyone will have stronger teeth. Fluoride toothpaste can be used if available. The children should discuss this with the health worker.

(E) *LEARN TO LOOK AFTER GUMS*

The gum covers the jaw around the teeth. If the gums are diseased the teeth can become loose and later drop out. So children should keep their gums healthy by cleaning teeth and gums properly. Germs make the gums bleed. If the gums bleed they have not been cleaned properly.

REMEMBER - Healthy gums do not bleed!

(F) *ANOTHER ACTIVITY*

Children could make a list of *do's* and *dont's* for looking after their teeth and gums. This list might include the following:

LOOKING AFTER OUR TEETH AND GUMS

DO

- brush our teeth and gums every day
- brush our teeth before going to bed
- eat healthy foods
- teach younger brothers and sisters to brush their teeth
- have a brush or a brushstick for each person in the family

...and so on

DON'T

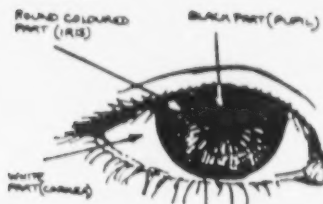
- let our teeth rot
- forget to brush our teeth
- use broken brick, charcoal or other hard materials for cleaning teeth
- drink fizzy drinks
- eat many sweets
- use one brush for everyone in the family

...and so on

12. ACTIVITY IX: LOOKING AFTER EYES

.....
* Sight is very important. We use our eyes *
* for almost everything we do. Many serious *
* eye problems come from NOT EATING ENOUGH *
* FOOD WITH VITAMIN A or from DIRTY FACES *
* which attract flies and germs. Eye dis- *
* eases often develop slowly and are not *
* noticed in the early stages. *
* *
* PREVENTIVE ACTION IS ESSENTIAL. Children *
* must learn that GOOD NUTRITION and *
* CLEANLINESS can keep eyes healthy and *
* prevent blindness. *
*

THE EYE:



Children can look at each other's eyes and draw what they see. They should notice three main parts.

Stand in a room with sunlight coming in. One child can shade his eye with a piece of card. Another child can watch the size of the pupil behind the shade. The first child then removes the card quickly and his friend can see how the pupil changes size in the sunlight. This helps children understand how the pupil lets light into the eye and helps us to see.

(A) FIND OUT WHETHER EYES ARE HEALTHY

Ask children to notice how a healthy eye looks. The white part is clear and the eye seems to SHINE.

CLEAN EYES

If something like a bit of DIRT or SAND enters the eye DO NOT LEAVE IT! Infection and permanent damage may result later. Try to stop the child rubbing the eye. Go to the health worker to check for damage.

If the eyes are RED or STICKY with pus or SWOLLEN, clean them VERY CAREFULLY.

Use a small piece of CLEAN cloth and BURN or BURY it afterwards. Or use a clean

finger, but ALWAYS wash your hands immediately afterwards. Eye infection can easily be spread to others.

If the eyes are INFECTED, go to the local health worker or drug store as soon as possible. An ointment may be necessary. Older children can help mother by putting ointment in the younger one's eye. Take care with putting it on. Ointment rubbed outside the eye does no good.

If you see a little PAINFUL RED LUMP on the edge of the eyelid, this may be a sty. STYES are not dangerous. Bathing with warm clean water can help relieve pain.



WASHING

Keeping eyes clean can prevent many problems. Older children can help younger ones to wash their faces and eyes EVERY DAY.

REMEMBER! IF THE LAND IS VERY DRY ONE CUP OF WATER WILL BE ENOUGH.



* After washing eyes it is better not to dry *
 * them. Towels, cloths and clothes can carry *
 * germs into the eyes. *
 * * * * *

(B) *LEARN TO KEEP FLIES AWAY*

Always keep FLIES away from face and eyes. Flies carry germs into the eye. Remember: Flies prefer feeding on dirty eyes. Children can find out where flies come from. They can draw a plan of an area and mark where flies gather. For example flies gather near animals. They can help to keep animals away from the house. Excreta and rubbish also bring flies; children can be encouraged to bury these.

Older children can compose songs and rhymes using a theme such as:

Brush the flies,
 From baby's eyes,
 Keep them away,
 Don't let them stay!

They can also make fly swats for use at home. Use palm leaves, bamboo or other local material.



Older children can work in pairs and inspect each other's eyes every day. They can report whether they have washed the faces of younger brothers and sisters at home.

(C) *UNDERSTAND WHAT IS MEANT BY BLINDNESS*

If a person cannot count fingers held one metre away he is "blind". He will probably need help.

One child can tie a cloth round the eyes of another. The second child can try to move around without

being able to use his eyes. The first child can help him. Several objects can be put into a deep bag. Children can place their hands inside and try to identify the objects by feeling them.

(D) *SURVEY OF BLINDNESS IN THE COMMUNITY*

Children can find out if there are blind people in their community. Find out if there is a special school, or whether there is an eye clinic nearby.

Children can find out what caused blindness by asking when the person became blind. A health worker can also help with information.

Examples: Blind at BIRTH
Blind in FIRST FEW WEEKS of life -
infections due to mother's health
Blind between 1 AND 6 YEARS - Vitamin A
deficiency, measles or severe
conjunctivitis
Blind in TEENS - trachoma or river
blindness
Blind in OLD AGE - cataract

Children can make a chart to show common local problems.

(E) *LEARN HOW TO PREVENT BLINDNESS DUE TO VITAMIN A DEFICIENCY*

.....
* Blindness in young children often comes *
* when they do not eat enough foods rich in *
* Vitamin A. An early sign is NIGHT BLIND- *
* NESS. This means that a child cannot see *
* as well as other children in THE DARK. He *
* often falls over things. *
*

* They can learn that eating DARK GREEN leafy *
* vegetables and RED and YELLOW coloured FRUITS *
* AND VEGETABLES can prevent it. RED PALM OIL *
* is also rich in Vitamin A. *
*

- (i) Find out which local foods are rich in Vitamin A. Draw colourful charts, pictures and posters of these. Collect and show local 'spinaches' or dark green leafy vegetables.
- (ii) Say which foods eaten at home contain Vitamin A.



Teachers and extension workers can help children to cultivate a kitchen garden to grow some of these plants. For example: TOMATOES, PAW-PAW, SPINACH.

- (iii) Older children can grow some near their home. Waste water from cooking can be used to water these plants if rain is scarce.

MEASLES

A well-nourished child can fight infections such as MEASLES which cause BLINDNESS. If a baby has measles it may be happier in a dark place for a few days. Feed the baby carefully with Vitamin A rich food and comfort him. Older children can wash the eyes. If they become infected with redness and pus, take him to the health worker.

REMEMBER: It is easier to PREVENT measles. Get immunisation when possible.

TRACHOMA

The easiest way to prevent blindness from trachoma is to keep children's eyes clean. Wash carefully and often and keep flies away.

REMEMBER: Trachoma can take many years to develop. Help to prevent it NOW.

* RIVER BLINDNESS *

* In areas where RIVER BLINDNESS is a problem *
* there is little the child can do directly. *
* In these areas the children can find out if *
* there are local health programmes to fight *
* the disease. If there are, children's help *
* is important for the whole community. *

(F) HELPING THOSE WHO ARE BLIND

Remember to help children who are already blind.
Find out where they are in the community. Does
anyone help them?

* Older children can help to guide them to *
* school. They can read them books, talk to *
* them and help them to learn. Include them *
* in games and activities as often as possible. *

Find out whether there are local facilities for the
blind or partially sighted. Do mobile eye clinics
visit their area?

Talk about local customs for treating eyes. Which
ones help?

13. ACTIVITY X: PREVENTION OF ACCIDENTS

*In some places as many as two children in a school
will die each year because of accidents, and many
more will be injured. MANY OF THESE ACCIDENTS NEED
NOT HAPPEN.*

*This activity is to help children to prevent as many
accidents as possible. Different sorts of accidents
happen to children who live in different places such
as towns and rural areas. This activity sheet gives
advice about only the most common accidents.*

In order to help with accidents children must know:

- *what the most common dangers are;*
- *how these dangers can be avoided;*
- *what to do if an accident does happen.*

(A) *FIND OUT WHAT ACCIDENTS HAPPEN TO CHILDREN*

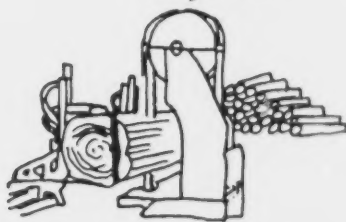
Children could talk with each other about what accidents happen, for example:

- ask why the accidents happened. If they can find out why, they will be better able to prevent them.
- record the accidents that have happened to children in their families.

(B) *LEARN TO PREVENT ACCIDENTS*

Together children could decide what they could do to try to prevent accidents happening, e.g.

- by helping younger children to become more careful with fire; by raising the family cooking stove; by making open cooking fires on raised mounds of clay and not directly on the ground; by making sure that handles of pans are turned so that they do not get knocked over.
- by taking special care of younger children at accident spots; by making sure that all children know about the dangers at these spots; by writing letters to newspapers and to the proper authorities about the worst accident spots.
- by warning others about the places where snakes and bees live, and by clearing grass and weeds from the paths most commonly used.
- children could have a campaign about how to play more safely. For example, by warning about the dangers of climbing dead trees, throwing stones, swimming in swift-flowing rivers, running while chewing sticks.



Bad accidents in our families

	BABIES	OLDER CHILDREN	GRANDPARENTS
BURNS	///	/	
CUTS AND FALLS	/	///	/
ROAD ACCIDENTS		//	///
SWALLOWING BAD THINGS	///	/	

- they can warn young children about putting dangerous things in the mouth, for example, stones. Babies often choke on ground nuts, and put things in their ears and noses. Children should not drink out of strange bottles or eat strange fruits and plants.
- they can identify places where there is danger from machinery, animals and broken glass.



(C) LEARN WHAT TO DO IF AN ACCIDENT HAPPENS

There are many simple treatments children can learn. Only the most common ones are listed here.

* REMEMBER: NO CHILD CAN USE THESE SIMPLE *
* MEASURES ON INJURED PEOPLE WITHOUT PRACTICE. *

ACCIDENTS:

If someone has a bad fall from a tree or gets badly hurt in a car accident, do not move him. Cover him with a blanket to keep him warm.

GET HELP QUICKLY.

BURNS:

AT ONCE put in cold water. Put the whole body in water if necessary.

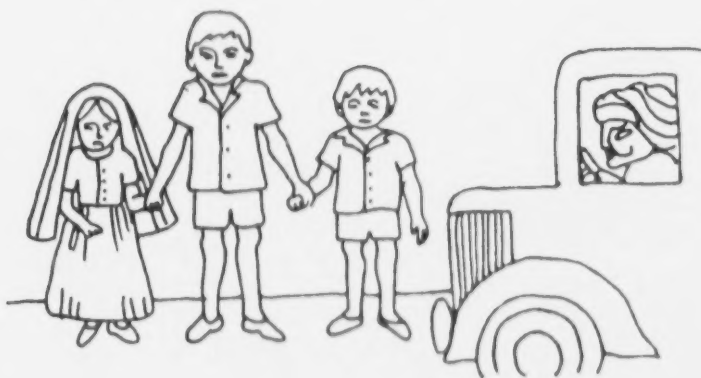
If the burn is bad, boil a little vaseline, put it on a CLEAN cloth and loosely cover the burn. NEVER use grease or butter. Burns must be kept clean and, if small ones, are best left uncovered.

CUTS AND WOUNDS: When possible clean cuts with soap and water that has been boiled, or hot salt water. Wounds left dirty can turn into bad ulcers. Washing well is better than using things such as mud or iodine. Do not use bandages unless they are very clean.

(D) *PARTICIPATE IN SPREADING THE IDEA*

Children should not try to do everything at once. For two weeks they could have a campaign against burns. Some time after the first campaign is finished they could start another one on accidents, and so on.

- Older children can write stories and act plays about accidents for younger children, that show why accidents happen and what can be done.
- They could make their own first aid and road safety tests - simple tests for young children, advanced tests for older ones - and award certificates to those who pass.





14. CONCLUSION

The above activities will add interest and relevance to health education. The contributions which school children can make to the promotion of the health of a community are twofold:

- (i) they are efficient carriers of knowledge and attitudes to the home and to the community; and
- (ii) with some skills acquired, they are an indispensable addition to the band of voluntary health workers which the community needs to achieve primary health care for all.

II TEACHERS AND PUPILS AS HEALTH WORKERS

I. PERSPECTIVE

It is well-known that schools are easily accessible to health promotion; yet the vast majority of school children in many countries are neglected from a health point of view due to constraints such as lack of personnel and resources.

School Health Programmes are often limited to a few favoured schools in urban areas where children are medically examined, but with no follow-up action. A very grave shortcoming of school health systems in developing countries is that they are, for the most part, ill-adapted imports from developed countries. Unfortunately, it is taken for granted that the present system takes care of the health problem of school children. There is the conventional thinking that medical inspection by the formally qualified is a major requirement for health intervention of school children. This idea, perpetuated by the professionals themselves and others concerned, appears to create a bottleneck. Over and above this, the disturbing sense about scarcity of medical personnel due to the brain drain, causes what amounts to not only grave implementation difficulties but also a mental block which prevents innovative thinking and alternative course of action.

The task involved in primary health care of school children is not merely examining children and finding out cardiac murmurs and similar defects or making sporadic efforts in health education. *It should be an on-going*

intervention to tackle the problem of common ailments which result from infection, parasitic infestation and mal-nourishment. The charity-oriented 'delivery of health' which is community oppressive must give way to an active learning of health problems in the context of each community and a striving and enduring effect on the part of teachers and pupils to solve the problem with emphasis on self-help. The influence of such a course of action should be lasting and should pass from the child to the family and to the community.

 * School teachers constitute a resource of a *
 * high order, particularly in the developing *
 * world. The highest concentration of edu- *
 * cated manpower is found in the educational *
 * field. Of all the organized institutions *
 * set up in a society, the school tends to *
 * reach the most number even in the under- *
 * privileged rural communities. Teachers are *
 * held in high esteem and they are looked up *
 * to by the community. The emerging role of *
 * teacher as community-leader and change- *
 * agent makes him eminently suitable in the *
 * role of health worker as well. *

II. BACKGROUND TO THE KANGAZHA PROGRAMME

Aims:

This programme, ante-dating the Alma Ata Declaration on Primary Health, had aimed to make teachers and pupils aware of:

- Primary Health care;
- what it stands for; and
- what role they have to play in it.

In addition to providing simple and practical solutions to the health-related problems at school level, the programme attempted to carry to the community the message of primary health care in such areas as nutrition, parasitic and communicable diseases, sanitation and water safety.

Objectives:

1. Enabling teachers to identify and treat common ailments so as to reduce the morbidity in school children.
2. Enabling teachers to screen for remedial disabilities and seek further help whenever required.
3. Improving the hygiene standard to acceptable levels and fostering good practices.
4. Prevention of communicable diseases by immunization of children and proper application of quarantine regulations.
5. Promoting a healthy school environment through participatory action which lends itself to improved basic sanitation at the family and community level.

The Philosophy:

1. Health care is not only everyone's right, but everyone's responsibility.
2. Informed self-care should be the main goal of any health programme or activity.
3. Teachers provided with clear simple information, can prevent and treat most common health problems in their own schools earlier, cheaper, and often better than can doctors.
4. Medical knowledge should not be the guarded secret of a select few, but should be freely shared.
5. Basic health care should be encouraged; not delivered.

Location:

The programme area is rural, situated in the hilly hinterlands of central Kerala, South India. Thirty schools

with a total student strength of 30,000 were selected for the implementation. With a long tradition of school education and with the State offering free education up to secondary school stage, almost every child in the area attends school. The drop-out rate at primary class level is extremely low. The adult literacy rate is as high as 95% and teachers are held in high esteem.

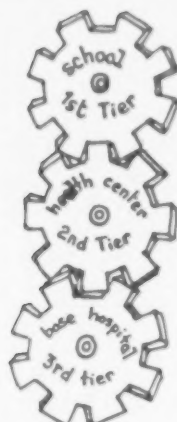
Commencement:

The programme was started in 1975 after a preliminary dialogue which commenced early in the year.

*
* *The idea of training teachers as health-*
* *workers was discussed with school com-*
* *munities. Although initially skeptical*
* *about its success, the schools decided to*
* *co-operate on a trial basis. It must be*
* *stated that the idea of self-help was not*
* *fully conceived at this stage.*
*

The health problems in a few selected schools were reviewed in the context of training the teachers and the tasks were defined and analysed. A simple three-tiered approach was adopted in which the trained teacher had a Health Unit established in each school functioning as the peripheral tier (i.e. 1st Tier). The school units were later linked to Primary Health Centres where the teacher could refer problem cases (2nd Tier). The Base Hospital (3rd Tier) was responsible for training and for referral services.

A THREE TIER ORGANIZATION IN A DYNAMIC RELATIONSHIP



The programme was implemented in several progressive phases. The genesis and progress of the programme is described chronologically so that the reader gets to know how it was evolved over the years; how the community participated in the exercise; how the contemporary thinking affected the strategies and what problems were faced at each and how solutions were found.

III. THE PROGRAMME IN PROGRESS

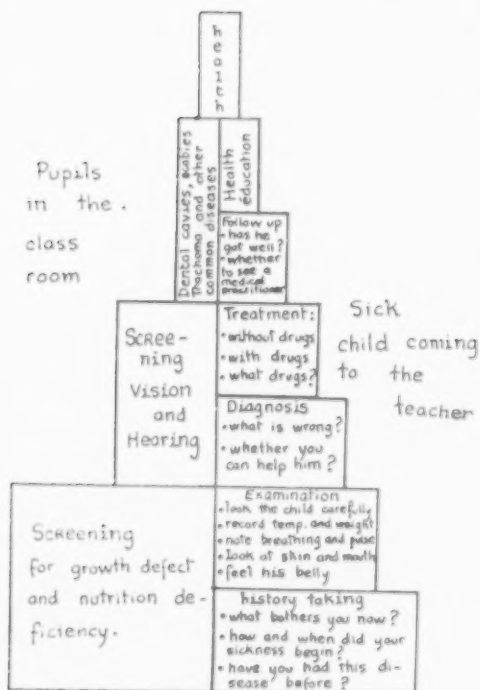
Phase I - Teachers as Health Workers (Year 1975-76):

The programme got off the mark in mid 1975 with the training of 30 teachers from 10 selected schools.

```
*****
*
* The training was task-oriented and the tasks
* identified at this stage were:
*
* (1) identification and treatment of common
* ailments such as scabies, skin sepsis,
* teniasis, trachoma and conjunctivitis.
*
* (2) identification and correction of common
* nutritional deficiencies such as de-
* ficiency of Vitamin A and Iron.
*
* (3) treatment of minor wounds and injuries
* and first-aid for emergencies.
*
* *****
```

- * (4) identification of children with growth *
 * failure leading to recognition of *
 * chronically ill children. *
 * (5) screening for defective vision. *
 * (6) recognition of infectious illnesses *
 * such as mumps, chickenpox and appli- *
 * cation of quarantine practices for *
 * prevention of their spread. *
 * (7) Fostering health habits in children. *
 * *****

STEPS TO HEALTH



The initial training lasted 4 days. After the training, the trainees made a report to the school council and organized a Health Unit in each school by acquiring the simple items of drugs and equipment (see Appendix I).

This was followed by a medical inspection which was intended as a revision of the training. The immunisation services were provided by the external health team with the teachers assisting.

The drugs used initially by the teacher comprised specific remedies against scabies, skin sepsis, trachoma, conjunctivitis, along with vitamins and drugs for symptomatic treatment. The programme was well received by the school community although it did not have a significant influence on the families. Teachers did seem to enjoy their new role. A major constraint was that of time involved in screening procedures and maintenance of records.

Phase II - Pupils as Participants and Beneficiaries
(Year 1976-77)

A new concept that emerged during this period was that pupils, for whom the programme was meant, should not be seen merely as beneficiaries but should be considered as participants as well. Seventy-five pupils were initially trained at the Base Hospital for the participatory role.

```
*****
*
* The aim of the training was to ensure their
* participation in the following ways:
*
* (1) to assist the teacher in record
*      maintenance.
*
* (2) for daily appraisal and reporting on
*      the health of the pupils.
*
* (3) to assist teacher in screening pro-
*      cedures (Vision, charting of Height and
*      Weight).
*
* (4) to help the teacher to improve school
*      hygiene.
*
* (5) to create better awareness of health and
*      hygiene among the pupils.
*
* *****
```

The review of the work at the end of the year showed that the programme had developed more steam. The pupils had taken an active role. Routine screening programmes could be done more effectively with pupils' help. The schools reported improvement in attendance as an outcome of the programme. This was the result of the simple curative services available at the school which helped the children to attend classes even when they had minor ailments.

* It was noted that when the children had *
* minor ailments, they were encouraged by *
* the parents to go to school to avail them- *
* selves of the curative facility at the *
* School Health Unit. A simple study on *
* morbidity of common problems showed a *
* significant reduction. In course of time, *
* the parents showed better understanding and *
* awareness about the programme. *

The teachers had a refresher training at the hospital with new inputs. Simple laboratory tests such as estimating haemoglobin, urine analysis for sugar and albumin were taught. They were also trained to do stool-microscopy for identifying common parasites. *Even though these skills had only limited practical application, the teaching was continued for subsequent batches as it seemed to boost the trainees' confidence significantly.* A de-worming drug (Piperazin citrate) was added to the drug stock.

A second batch of teachers from 12 primary schools was trained at the request of the Government and they were encouraged to implement the programme in their schools.

The number of teachers trained was decided by the number of pupils in each school. A ratio of 1 teacher to 500 pupils was considered optimal. With the widening of the field and the increase in the number of trainees, institutional training of pupils at the Base Hospital was found to be impractical. Hence the teachers were oriented to developing and training a batch of students on their own.

Phase III - Teachers and Pupils play a role in the
Village Health Programme (1977-78)

The year of the Alma Ata Declaration on primary health care gave new strength and impetus to the programme. This was because of the realization that the approach in general terms was in tune with the aspirations of the Conference and its declarations.

During this period, a comprehensive village health and development scheme was taking shape in the areas around the schools. The teachers who were involved in the School Health Programme helped to initiate and animate the village health movement and they participated in the village councils. The school health network was strengthened by including more schools in the programme. The pupils too helped in launching the village health programme.

```
*****
*
*  A seven-point action scheme for pupils was
*  formulated with the following targets:
*
*  (1) get 10 under-fives immunised
*  (2) Vit-A prophylaxis for 10 under-fives
*  (3) organize compost and soakage pits for
*      5 houses
*  (4) chlorinate 5 wells
*  (5) organize kitchen garden for 5 houses
*  (6) reach give simple nutrition messages to
*      10 families
*  (7) give a simple lesson in dental hygiene
*      to 10 families.
*
*  The scheme was organized in the form of a
*  competition and most participants overshot
*  the targets.
*
*****
```

The participation by the pupils in the Under-five Health Promotion programme outlined above, sensitized the school children to the health needs of their own younger brothers or sisters. The CHILD-to-child concept was thus growing and it was nurtured by the teachers who embarked on various types of CHILD-to-child activities suited to their context. Thus through the CHILD-to-child programme, a

school-based health programme was sought to be extended to the family and the community. The messages directed at the community were like the following:

- *****
* The five simple messages in nutrition *
* *
* 1. Breast-feed your baby till 2-5 years of *
* age *
* 2. Start giving your baby solid food when *
* he is 3 months old *
* 3. Eat dhal, gram (pulses) and groundnut *
* for better health *
* 4. Use jaggery instead of sugar *
* 5. Eat vegetables. *

Phase IV - Towards more Self-Help (Year 1979-80)

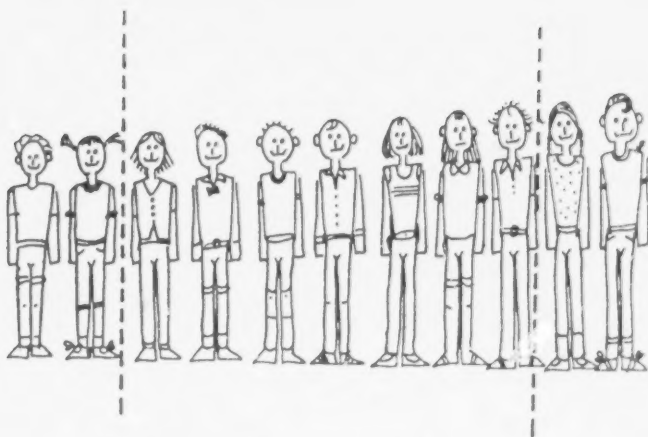
The programme was reviewed at intervals. The reviews were meant to identify problems and to find solutions. The second half-yearly review brought up two basic issues:

- (1) whether the programme could be extended on a larger scale
- (2) whether it was possible to simplify the training and the tasks.

For this study, a research panel was formed consisting of 11 Teachers and an Educational Officer. The research panel met periodically and discussed the issues in detail. Necessary field trials were conducted by the participants. The proposal that trained teachers could themselves be responsible for training new teachers was proved by experiment. This exercise highlighted the need for a curriculum design (see Appendix II). A training manual was found to be a necessity and the same is under preparation.

Experiments were conducted to resolve some of the difficulties encountered in the screening procedures. The possibility of identifying aberrations in growth by the simple technique of lining up children in a class according to height and subjecting children at either end of the line to anthropometric assessment was tried. This method had a

definite advantage over the earlier one of screening every child - a time-consuming process.



SCREENING FOR GROWTH DEFECT

The possibility of using behaviour patterns and responses of children, as illustrated below, to aid in identification of impairment of vision and hearing is under investigation:

Classroom behaviour of children

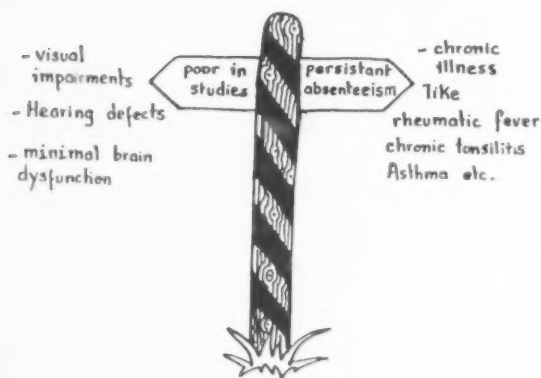
(i) with visual impairment

- The child who has defective vision may look at the neighbour's book when the teacher writes on the board
- He may sometimes go near the board
- While reading, holds the book very close to his eyes
- Takes more time to copy from the board
- May complain that the teacher is too fast.

- (ii) with hearing defects
- Often appears inattentive and bored
- Sometimes appears over-attentive, and staring at the teacher's face (lip reading)
- Turns head to either side, holding the hand behind the ear
- Shows alertness and anticipation for sounds.

- Often appears inattentive and bored
- Sometimes appears over-attentive, and staring at the teacher's face (lip reading)
- Turns head to either side, holding the hand behind the ear
- Shows alertness and anticipation for sounds.

SIGN POST OF ILL HEALTH

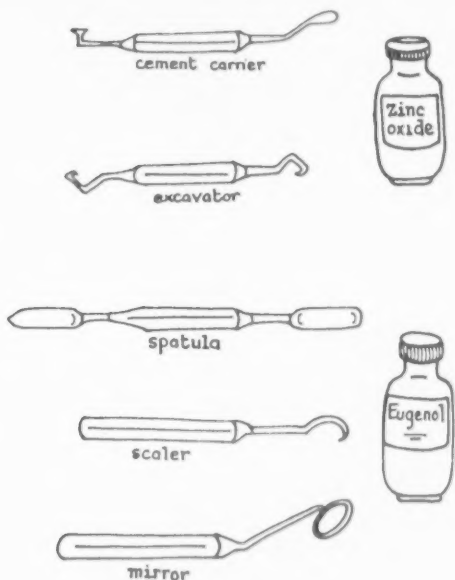


- 66 -

approach was designed to give early attention to dental problems and to prevent complications such as dental abscess which results in loss of teeth. After the temporary filling, the child could be taken to a dental clinic at the convenience of the family. This also helps reduce the number of visits to the clinic resulting in considerable saving on time and money to the family.

It has been possible to undertake this task in the schools with minimum equipment. The long-term usefulness of the scheme is under study:

A SIMPLE DENTAL KIT



 * The community acceptance of the programme *
 * was mounting by this stage; so were the *
 * expectations from it. This called for *
 * more of curative and preventive activities. *
 * The over-emphasis on safety was wearing off. *
 * *****

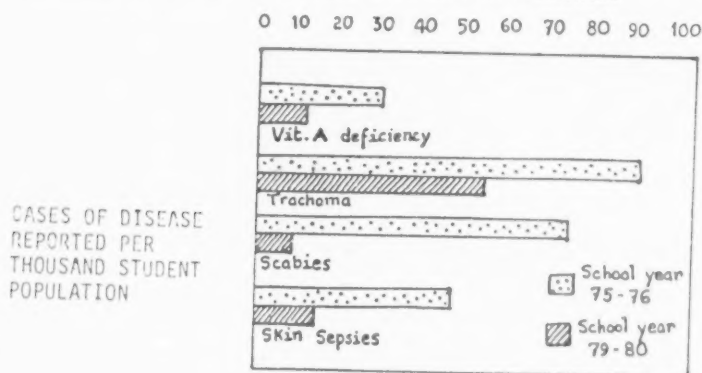
* The curative component was strengthened *
 * with the introduction of simple anti- *
 * biotics (Oral penicillin & Tetracycline) *
 * and the preventive side by allowing the *
 * teachers themselves to administer pro- *
 * tective vaccines. This is expected to *
 * result in greater effectiveness of *
 * immunisation programmes in the schools. *
 * *****

Phase V - Teachers and Pupils in Integrated Development

The teachers and the pupils who were initially the agents of change in health have in the course of time become agents for a total change. While teachers have been the backbone of the village council for health and development, pupils have become promoters of health and development. This involvement is expected to have a twofold advantage. In the first place, it strengthens the community participation. Secondly, it provides a training ground for pupils in the various aspects of community development such as informal education, community organization, methods of agriculture extension and animal husbandry in addition to community health promotion.

IV. EVALUATION AND RESULTS

An evaluation spaced by an interval of five years revealed substantial reduction in common ailments.



: A nominee of the Voluntary Health Association :
 : of India who participated in the evaluation :
 : found that several thousand school days had :
 : been saved in addition to improvement of :
 : health habits and hygiene of the school. The :
 : improvement in attendance is attributed to an :
 : overall reduction in morbidity and correct :
 : application of quarantine regulations. (The :
 : usual fault is to over-estimate quarantine :
 : periods.) The programme was found to be in- :
 : expensive, costing less than 1 Indian rupee :
 : per student per year. The evaluator found :
 : the programme 'simple and replicable'. :

It is strongly felt that an over-emphasized outside evaluation, based mainly on hard data and in reference to short-term measurable objectives, does not provide the answers which are sought from a programme like this. *What is probably more important than the fulfilment of short-term objectives is to know how the programme has influenced the long-range welfare of the community; whether it genuinely encouraged responsibility and initiative, decision-making and self-reliance at the community level and enhanced human dignity or whether it actually encouraged greater dependency and servility; in other words, whether the programme has been 'community supportive' or 'community oppressive'.* Some important and key aspects of the programme are briefly discussed below to highlight how and to what extent the programme has been community supportive, in terms of this new insight for which we are thankful to David Warner:-

Planning Priorities and Decision-Making

The programme had flexible and open-ended objectives. The only pre-planned aspect of the programme was that it should be based on self-help and that the necessary resources, including personnel, should come from the community. The responsibility or prioritisation and decision-making was left to the community and not imposed 'top down'.

Community Participation

The essence of the programme was the intensive and resourceful participation of teachers and pupils. The outside agents only advised and inspired. The community participation was achieved through close relationship and mutual trust. The schools had the option to decide who should be trained to work for them and how he/she should work. The teachers and pupils worked on a completely voluntary basis without financial or other incentives.

Training

The training of teachers included scientific approaches to problem-solving. Initiative and thinking were encouraged at all stages. The teachers were provided information and books to increase knowledge on their own and were allowed to share the knowledge and skill freely with their colleagues. The teachers were encouraged to train teachers from other schools aimed at self-propagation of the programme.

Financing and Supplies

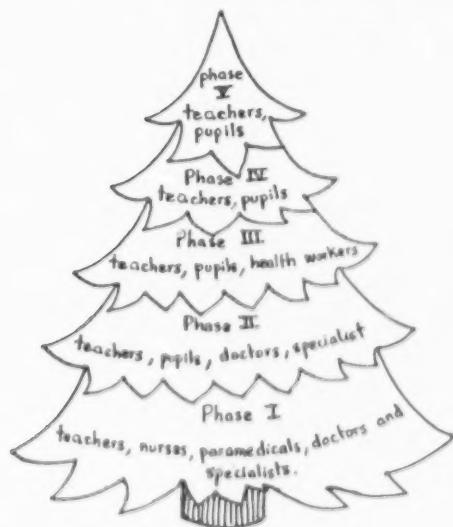
The financing and resources were largely from the community. The cost of the programme was kept as low as possible, through effective de-professionalisation. The decision regarding income and expenditure and resource generation was completely decentralized, each school devising its own method.

Evolution Towards Greater Involvement

"For a long time health experts have been pushing for more preventive medicine at the village level and with good reasons. But too often this has been used as a convenient excuse to keep curative medicine completely or almost completely in professional hands" - David Warner writes. This is very true in the conventional health programmes.

 * The over-emphasis on safety inhibits the *
 * lesser skilled rendering curative service. *
 * It also jeopardises their credibility and *
 * in turn adversely affects the effective- *
 * ness of preventive and promotive health *
 * service. In this programme, the scope of *
 * curative service was determined realisti- *
 * cally, and in response to community needs. *
 * Factors such as distance from health *
 * centres, the non-availability of immediate *
 * medical aid, were sought to be overcome by *
 * proportionally strengthening the school *
 * units. The limits defining what a teacher *
 * should do were determined by the knowledge *
 * and skill which was being constantly *
 * fostered and encouraged. An interesting *
 * degree of de-professionalisation and de- *
 * institutionalisation was achieved. *

A GROWING PROCESS OF DE-PROFESSIONALISATION REDUCING THE COST OF CARE



The programme was open to growth and improvement. Newer approaches and improvements were made at various stages. Provisions were made for teachers to try out alternative strategies with prospects for wider application if the new idea worked. The teachers continued to learn about health. They took pride in what they did and served one of the felt needs of the community. They stimulated initiative and a sense of responsibility in others.

V. CONCLUSION

What is borne out by this experience is that school teachers form a great resource for primary health care at the school level which lies dormant for the most part and it is possible to tap this resource. Whether it is possible to mobilise this potential by a 'top-down' approach is not known; but it certainly is possible through a community supportive approach as was adopted in this programme.

The process of involving teachers and especially pupils, at their impressionable age, in the health and welfare of the school, the family and community, promotes community self-reliance in health.

*
* A School-based Health Programme with *
* the participation of teacher and pupil *
* can thus be the Second Front in the *
* health development of a community. *

We conclude with a quotation from Dr. Albert Schweitzer and relating it to our present context: *"Each patient carries his own doctor within him... We are at our best when we give the doctor who resides within each patient a chance to go to work"*. Each human being, even a child, has the potential to be a health worker; we will be at our best if we give him a chance.

III

HEALTH AND NUTRITION IN EARLY CHILD DEVELOPMENT : PRODUCING CHANGE THROUGH EDUCATION

I. INTRODUCTION

The basis of any national development rests on the development of the men and women who make up the nation.

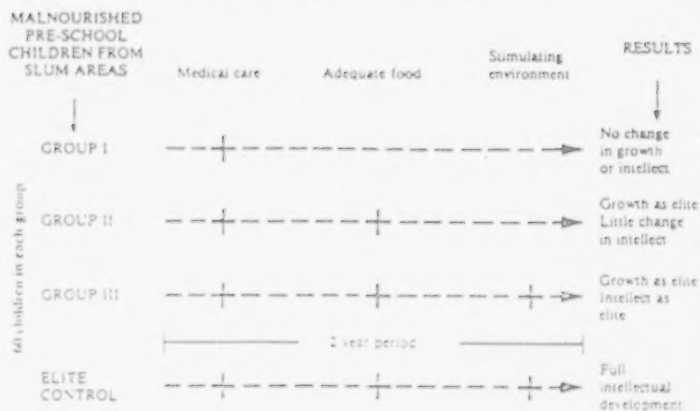
* *Those in education and health now accept that* *
* *the environment of the child, and particu-* *
* *larly, the pre-school child, is the element* *
* *most critical in human development.* *

The nutrition of the mother-to-be and other steps to prevent low birth weight need to be followed by a satisfactory period of breast-feeding. As breast milk is slowly replaced by other foods we need to see that foods of a high energy density are available. From birth we must ensure that satisfactory mother/infant bonding takes place and that in the early months and years the small child is in a loving but stimulating environment. Lastly, comprehensive health care must be available. The success of this health care will depend on it being acceptable, present within the home environment, or close by.

II. THE NEEDS OF YOUNG CHILDREN

A study among a group of urban malnourished children in South America attempted to identify what were the specific needs of the under-nourished children in that community. The results of this study have been very much simplified in Figure 1.

Fig. 1 Child Malnourishment in South America



Note: Health care and nutrition are not enough. The child requires a caring and stimulating environment. These are the fundamental differences between the children of those reading this paper and the children we see in the slums, shanty towns and villages of developing countries.

Three groups of sixty children were studied. One received just health care, another health care and adequate nutrition, and the third group health care, adequate nutrition and a stimulating environment. These three groups were compared with an elite group drawn from the children of university teachers. After two years the children in the different groups were assessed. Those who received only comprehensive care showed no improvement either in their growth or their intellectual development, compared with other children in the same community. The second group which had good nutrition as well as comprehensive care showed no improvement either in their growth or their intellectual development, compared with other children in the same community. The second group which had good nutrition as well as comprehensive care grew as well as the elite, but there was little improvement in their intellectual development.

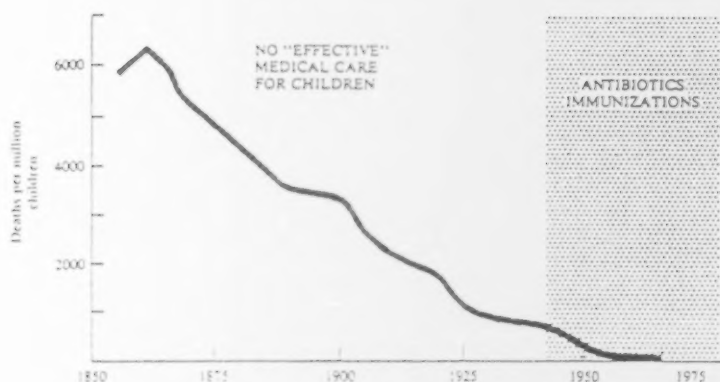
 * The last group which had comprehensive care, *
 * good nutrition and a stimulating environment *
 * managed to catch up with children from the *
 * elite group. This catch-up was both in their *
 * growth and intellectual development except for *
 * some minor differences in the many psycho- *
 * metric tests undertaken. THIS STUDY CONFIRMS *
 * THE BELIEF OF MANY CONCERNED WITH THE HEALTH *
 * AND EDUCATION OF YOUNG CHILDREN THAT ADEQUATE *
 * NUTRITION IS A PRIORITY. However, good *
 * nutrition needs to be linked with a stim- *
 * ulating and loving environment. At the same *
 * time they need simple but comprehensive health *
 * care if they are to escape from the blanket of *
 * infections that interferes with the growth and *
 * development and only too frequently may lead *
 * to the death of a small child in developing *
 * countries. *

III. NUTRITION AND DECLINE IN CHILD MORTALITY

At the present time it is generally assumed that the European or North American child who comes from the more privileged groups in those societies should be the norm for healthy growth of children the world over. While many would be concerned at certain aspects of these children's development, there is little question that the survival of such children is satisfactory compared to their brothers and sisters in the developing world. The health planner in less developed parts of the world may well look towards these more fortunate nations and ask the question why European and North American children with few exceptions are healthy. Unfortunately, he will get no clearcut answer.

If we concentrate on the decline in mortality beyond infancy when the influence and problems of pregnancy and birth are less important, we find that mortality from whooping cough, measles, scarlet fever and diphtheria, the common infections of childhood, have declined over a long period (Figure 2).

Fig. 2 Under 15 Year Deaths Attributed to Scarlet Fever, Diphtheria, Whooping Cough and Measles, England and Wales



Note: Throughout Europe and North America the mortality from measles, whooping cough, scarlet fever and diphtheria probably declined in a pattern similar to that as shown in the UK. By the time vaccines and antibiotics were available deaths from these diseases were most uncommon and probably much of the decline arose from a generalized improvement in nutrition of children.

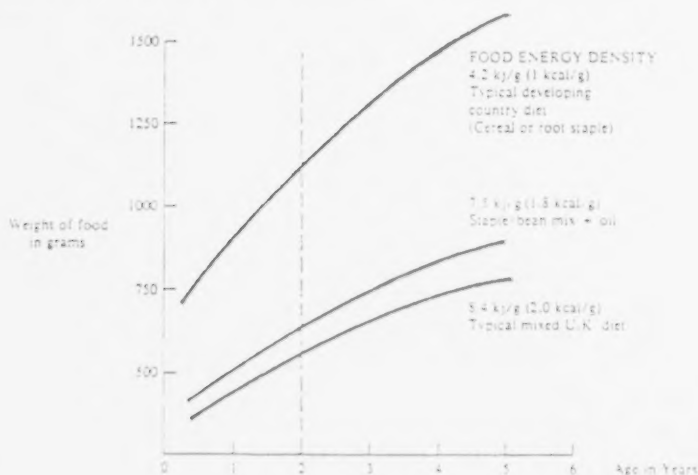
In this figure the mortality from these diseases is plotted since 1850, and over the next century shows a steady decline. Effective health care in terms of VACCINES and IMMUNISATIONS only became available after 1935 at a time when the mortality from these common infections had become negligible.

SANITATION and a GOOD WATER SUPPLY may also have played their part in this decline. However, these only started to become widely available in the UK from 1870 onwards and we know in fact that the decline in mortality started earlier than 1850, probably towards the end of the 18th Century.

McKeown (1976) in his book "The Modern Rise of Populations", has examined this question of decline mortality from another angle and proposed that it was an INCREASED FOOD SUPPLY and IMPROVED NUTRITION which made it possible. Perhaps children in the past in Europe may have suffered from nutritional problems not too different to those presently occurring in developing countries.

 * With few exceptions the young child in the *
 * rural areas of developing countries depends *
 * heavily on a diet prepared from a cereal or *
 * root crop. A feature of this type of diet *
 * that has only been considered recently is *
 * its bulk. The mother, in her efforts to *
 * convert these staples into a food suf- *
 * ficiently soft to be taken by a child in *
 * large quantities has to prepare the staple *
 * with a high content of water. As a result *
 * the child is faced with eating a large bulk. *
 * (Figure 3). *
 * *****

Fig. 3 Food Intakes in Relation to Energy Density



Note: A two-year old eating a root or cereal staple may need to consume in excess of 1 kilo of food a day. The inability of most children to consume this weight of bulk of food each day is the root of malnutrition in developing countries. Much of this problem can be met by adding oils and fats although some legume and source of Vitamin 'A' will also be required.

No doubt children in the past in Europe also were faced with this problem but now, as shown in this figure, they can consume sufficient energy in a very much smaller weight of food. Fortunately the bulky nature of a developing country's food can be reduced by the addition of fats or oils. At the same time the protein content needs to be raised and the amino acid content balanced by the consumption of legumes making up a quarter of the food.

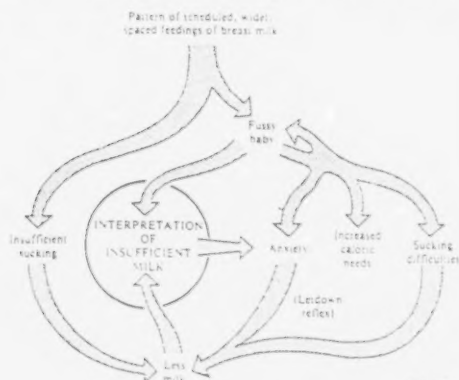
* *The decline in child mortality in Europe may* *
* *therefore have been in part due to the chil-* *
* *dren eating foods with a higher energy* *
* *density. These became available as cereals* *
* *were more effectively ground in steel* *
* *mills. At the same time fats and oils from* *
* *a variety of sources including milk and* *
* *animal fat became more widely available.* *
* *Lastly, sugar, with its great solubility and* *
* *high energy concentration, became widely* *
* *available.* *

Unfortunately these improvements in the nutrition and health of children were purchased at a high price in adult ill-health. At the time when this child mortality was declining the so-called civilization were becoming steadily more important. The reasons for the increase in these diseases is uncertain. However, many researchers will agree that over-nutrition due to the use of foods with a high energy density is important, together with a decreased intake of dietary fibre. Moreover there has been a decrease in physical exercise and the prevalence of such habits as cigarette smoking is also important.

 * Studies in East Africa suggest that during *
 * the second year of life around 50% of the *
 * energy intake may be from breast milk. *
 * Children who are no longer breast fed in *
 * spite of a 60% increase in cereal intake, *
 * still have an energy deficit of 20% com- *
 * pared with children who were still breast- *
 * fed. *
 * *****

Again, examination of why breast feeding has declined in European populations needs to be considered. The decline in breast feeding probably occurred in the 18th Century when societies became more conscious of time and the concept of three or four-hourly feeding became accepted. At the same time there were changes in women's clothing and an assumption of modesty in breast feeding made frequent breast feeding difficult. Recent studies on the Kung bushmen in South Africa, a people who have maintained a very traditional and nomadic way of life, identifies that the year-old child may be sucking on the breast at intervals of only 15 minutes when it is awake. Such babies normally never cry from hunger or even become "fussed" and anthropologists now suggest that it is this frequent feeding and ready access to suckling that is associated with successful breast feeding. Where these are not available the mother comes to believe she has inadequate milk (Figure 4).

Fig. 4 Implications of Non-biological Breast Feeding



Note: The anxiety among Western mothers which is now spreading to the developing world that they have an inadequate or inappropriate milk supply arises from changes in suckling methods. Modesty, modern clothing and modern emphasis on feeding at 2 to 3-hourly intervals have created the "fussy" or at times crying infant which, as this diagram suggests, so often influences the success of infant feeding.

These circumstances that have led to a decline in the ability of mothers in Europe and North America to breast feed successfully have spread widely in developing countries and a considerable change in knowledge, attitude and practice over breast feeding will be necessary to reverse this trend.

IV. PROVISION OF COMPREHENSIVE HEALTH CARE

In a recent evaluation of nutrition and health care programmes around the world (Gwatkin, 1980) stated:-

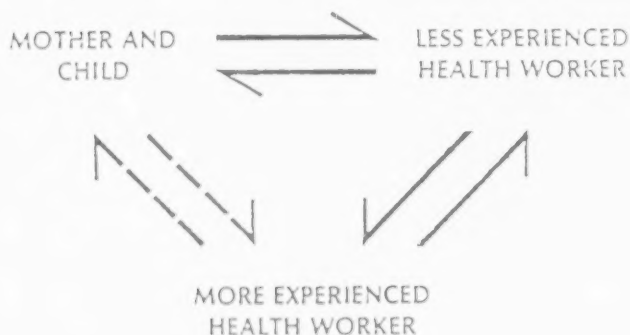
"...The findings of these ten projects - especially the more recent of them - are obviously very encouraging. Taken together they present a persuasive case that, in the hands of able leaders and in populations of up to 60,000 - 70,000, well-designed and effectively operated projects can reduce infant child mortality rates by one third to one half or more within one to five years, at a cost of less than the equivalent of 2% of per capita income - an amount no greater than that currently being allocated to health nationally."

Such effective programmes to improve the health of children depend heavily on a part-time health worker or village health worker living close to the mother. Through programmes such as the Under Fives Clinics, growth of children can be monitored, immunisations made available and treatment for acute respiratory disease, diarrhoea with dehydration and skin conditions made available to the mother early in the disease episode. However, in all societies clinics such as the Under Five Clinics, are only likely to reach 80% or rarely 90% of the population. The local part-time health worker will recognise those children who for a variety of reasons, are not brought to such

clinics. For them health care will need to be taken into their homes unless popular pressure can persuade the mothers to join their colleagues at the Under Fives Clinics.

In most developing countries this care will need to be provided by local women (or men) and the doctors and public health nurses and auxiliaries need to undertake a supervisory and supportive role. Their responsibility is not just to see mothers with sick children referred to them, but instead to use such occasions to train and support the part-time health worker (Figure 5).

Fig. 5 Interdependence Among Social Workers



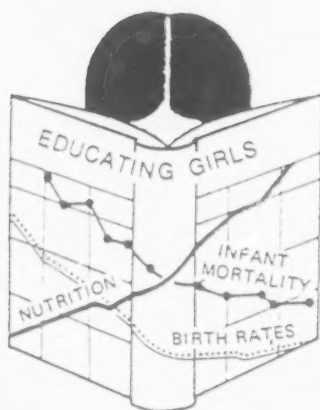
Note: Success in providing comprehensive health care depends heavily on the supervision, encouragement and training offered as an on-going process between a senior and junior health worker as suggested in this diagram.

In this figure we see the senior worker working largely through the junior worker rather than directly with the mother. In this way the junior worker learns how to cope with more severe or less common problems and at the same time the mother sees the senior worker treating the junior worker as a colleague and her confidence in the ability of that worker is not eroded.

V. PRODUCING CHANGE THROUGH EDUCATION

* To create change in one year plant *
* rice. *
* In ten years plant trees. *
* In a hundred years teach men. *

* Although this time scale is perhaps a little *
* long it does emphasize that the changes re- *
* quired can only be undertaken slowly and are *
* largely educational. Success in reaching *
* the objective of comprehensive health for *
* all by the year 2000 will depend heavily on *
* how well health professionals can work with *
* those in education and absorb many of their *
* skills. *



THE EDUCATION OF GIRLS
IS CLOSELY ASSOCIATED
WITH A FALLING INFANT
MORTALITY AND BIRTH RATE
AND IMPROVED NUTRITION

Success in achieving education of girls is a priority. Recently, the World Bank has confirmed with statistics what is suggested in this figure. They have shown that for every year of education given to girls, we

can expect the Infant Mortality Rate (IMR) to fall by 9 points. Many countries have an IMR of 90/1000. If they could give all their girls five years of education they could hope for the rate to be halved to 45/1000.

The following are some of the areas in which such co-operation should take place:-

A. "Health Education" or "Disease Education"

There is a widespread misunderstanding that the translation of the word "tuberculosis" or "whooping cough" into the local language means that when this word is used the person concerned has an understanding of the disease (Moffatt, 1971).

* If education is to assist individuals to *
* live better in the environment in which *
* they find themselves then a knowledge of *
* the ten or more major diseases of their *
* area should be a high priority in chil- *
* dren's education. Suitably written, the *
* story of the battle between the bacteria *
* or parasites and man and how man, through *
* controlling his environment, can influ- *
* ence that battle, could be one of the *
* most interesting lessons for primary *
* school children. *

So often existing health education rests on the unfounded supposition that the individuals being taught have some understanding of the natural history of the disease, the prevention or management of which the health educator wishes to teach.

B. CHILD-to-Child Programme

In our world, older children have been caring for younger children for hundreds of thousands of years. Only in 1979, the International Year of the Child, was the CHILD-to-child programme launched to exploit the situation. In this programme those in health and education are working together to see how,

through schools and other means, simple methods can be developed by which older children can learn how to care for younger children better. Although, or perhaps because this programme was launched with only a minimum of resources it has spread and has been accepted in around 40 countries. The objective of a small steering committee between the Institutes of Education and Child Health in London is to produce a "basket of ideas" which can be used locally to develop programmes appropriate for varying social backgrounds. A book on the programme is available in five languages and many of the activity sheets have been translated into a number of other languages.

 * *Older children are encouraged to provide* *
 * *a more stimulating environment for* *
 * *younger children, to prevent accidents* *
 * *and they have become involved in health* *
 * *programmes as diverse as managing dehy-* *
 * *dration and identifying possible* *
 * *leprosy in other children.* *

Recently, thanks to assistance from an international designer, a suitable logo has been produced through which the programme may perhaps become better known internationally.

C. Training the Part-Time Health Worker

Experience around the world suggests that village health workers and part-time health workers will need to be trained in large numbers. At least one is required for every thousand persons and perhaps one for every five hundred may be more appropriate to achieve total population coverage.

 * *In some of the well-established part-time* *
 * *health worker programmes around the world* *
 * *the more successful village health workers* *
 * *are those who are illiterate. Few* *

* programmes have successfully used part- *
 * time or village health workers who have *
 * secondary education. Where this has *
 * been attempted the individuals have *
 * usually moved away to the cities soon *
 * after they have been trained. *
 * ***** *

Special skills will be required in the training of these individuals who possess either no schooling or perhaps minimal literacy. Those involved in this training need a close association with educational departments which have studied training needs at this level.

A further problem arises in that towards the end of this decade the number of part-time health workers in a village may be similar to the number of primary school teachers. The success of both the part-time health worker and the primary school teacher depends on their ability to communicate and it will be sad if efforts are not made to help such workers work more closely together.

D. Distance Learning

The health services in most developing countries are developed and motivated towards specialized curative care services. The road along which they are currently travelling will not lead the country to comprehensive care by the year 2000. The necessary change in direction is not a U-turn but a firm hand will be required to re-direct these services towards care for all by the year 2000. So far, the assumption has been made that with backing from international organizations this change can be brought about either by university medical schools, or through ministries of health. McDermott (1970) has argued that universities are not "agents of change" and similarly few ministries have either the resources or the drive to undertake a significant change in the direction of what health services are provided.

 * Just as there have been enormous advances *
 * in medicine over the last twenty years, *
 * there have been similar advances in edu- *
 * cational methods. Perhaps one of the most *
 * promising for use in the health care sys- *
 * tem is the development of distance learning *
 * techniques such as those that have evolved *
 * out of the Open University of the United *
 * Kingdom and similar organisations in many *
 * other countries. These learning techniques *
 * are particularly suited for the health *
 * units in rural areas of developing *
 * countries scattered over enormous distances *
 * and currently starved of ideas and *
 * training. *
 * *****

The distance learning programme envisaged (Morley, 1979) would need to be headed by an educationalist as the problems will be educational rather than medical. The team would, however, include various levels of health workers including doctors and would produce material in the local language of the district. Many health workers in rural areas are already well motivated and the desire to increase their knowledge and incentives in terms of promotion would be built into the programme. While the training may start in a didactic form, soon each health unit would be examining the particular problems and limitation of resources in their area. Clearly only a proportion of health units would be successful in overcoming these limitations. These successful units would be the models to which medical students and others could go to learn how health care can be provided through co-operation between the national health care system and the local community.

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IV
SEE HOW THEY GROW

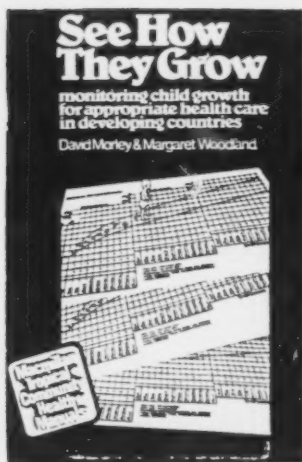
Introducing a very useful publication

I. INTRODUCTION

The purpose of this paper is to introduce to our readers a recent publication which is both relevant and useful to programming primary health care activities in both schools and out-of-school non-formal modes of learning. It is published in a series called MACMILLAN TROPICAL COMMUNITY HEALTH MANUALS (General Editor: Dr. J. Grant of the London School of Hygiene and Tropical Medicine) which has been set up "specifically to meet the needs of trainee and practising medical personnel in the tropical and sub-tropical developing countries".

But some of the books in the series are expected to "appeal to others involved in Community work - e.g. school-teachers, public health inspectors, environmental health officers and also literate parents. Early on there will be a heavy concentration on aspects of care offering best prospects for improved standards of preventive treatment and therefore health in the community. Inevitably there will be strong emphasis on infant, child and mother care, as infants and children account for up to half the total population in some tropical developing countries, and more than half of the presentations for treatment".

The following book which we have chosen for presentation is one of those which is invaluable to a wider readership - specially those in the field of education who are concerned with primary health care of children:



Reference:

ISBN 0-333-25771-5

0-333-25772-3 Pbk

 * In some of the recent evaluations undertaken *
 * in connection with school feeding programmes, *
 * as well as in assessment of cognate "basic *
 * services" projects, a major issue that comes *
 * to light is that of monitoring and recording *
 * child growth in as accurate and reliable a *
 * manner as possible. Problems connected with *
 * measuring heights, weighing and preparing *
 * some of the regularly used charts as "weight- *
 * for-height" and "height-for-age" are found to *
 * be far more complex than usually thought *
 * particularly when these operations are handled *
 * by thousands of teachers with little training. *
 * *****

* *Monitoring for health care, that is for a* *
 * *much wider range of objectives than evalu-* *
 * *ating the impact of supplementary feeding* *
 * *is undoubtedly a more difficult task.* *

The very lucid and extremely interesting discussions in this book and the practical guidelines it offers are of immediate relevance to teachers and other educators who are being progressively involved in programmes of primary health care (assisted and encouraged by UNICEF and WHO) and pre-school and school-feeding (assisted by WFP). Illustrations - both technical drawings and cartoons - enhance the capacity of the book to sustain the interest of the reader.



FIG 1.10 As a result of such a consultation between the professor of medicine and the Minister of Health the hospital specialist may be in a particularly favourable position to press for even more spending on curative services. Many health planners have found this negates their attempts for more equitable distribution of services.



FIG. 8.4 A cartoon from 'Pan', a paper produced during the Rome World Food Conference, illustrates the pressure of western advertising.

 * These illustrations have been purposely *
 * developed with an objective in mind. Ac- *
 * cording to the Preface, "The success of *
 * this book, the author's believe, will de- *
 * pend heavily on the illustrations. Books *
 * such as this can provide some knowledge, *
 * possibly help develop a few skills, but *
 * if they are to change people's attitudes *
 * we believe this may well be through *
 * illustrations". *
 * *****

II. THE STANDARD GROWTH CHART

Starting with the statement that the causes of high mortality and morbidity in developing countries are either preventable or curable by simple measures if diagnosed early, the book is basically in two parts though not so indicated specifically. The first seven and the 10th and 11th Chapters bring together experiences gained over the

years in the use of weighing and weight charting for the promotion of child health, and caring for children. The chart which the authors have evolved over 16 years is illustrated below along with justifications for the standardization:

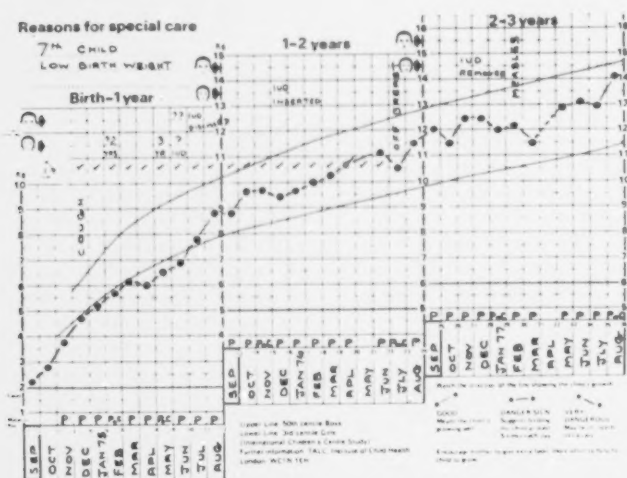


FIG 3.1 This is the type of growth chart that has evolved over the last sixteen years. While being extremely simple it is, as shown in this manual, a document that can be highly sophisticated and pack with relevant information from which necessary decisions on the care of the child can be taken.

1. A standardised record can be based on experience gained in many countries; it can incorporate the best and most relevant experience and ideas.
2. Weight charts are not easy to understand and use. Education and training need to be given to health workers with little education, and possibly also to the community at large. This could be provided through schools in countries where governments realise the importance of growth in the first years and also that national development depends on an undertaking of this growth by the people. Thus the record needs to be simple to understand and use, and appropriate training materials need to be prepared with care.

Both of these requirements can best be met if a simple, standardised system of training is adopted.

3. There are important savings in production costs if the records are simple and standardised. For example, duplication of time and effort is avoided.
4. In the future, the pooling of experience will be much more useful if identical systems of growth charting are used. Different workers' experience will be directly comparable.

* The value of the growth chart is summarised by the authors as follows: *

* It provides a continuous record of health. When a child is sick, there is valuable background information to help treatment. *

* It is the basis for comprehensive health monitoring and care. It avoids the dangers of giving a single response to a specific need, without consideration of the total picture. *

* It encourages positive action for all children. Promotion of adequate growth is a more useful target than prevention of malnutrition. *

* The chart is of the greatest value in terms of preventive action as it makes serious diseases of malnutrition easy to diagnose. The role of the weight chart is to identify the potential danger of malnutrition before management becomes too difficult at the primary health care level. The weight curve may identify trouble six months or even a year before the child has obvious signs of malnutrition. The opposite is *

also true. A child who is gaining weight regularly and whose curve is parallel with the curves on the chart will not develop malnutrition.

The chart derives inspiration from a Chinese proverb: "The weakest ink is stronger than the best of memories". The chart is expected to bring out the relationship between growth and time:

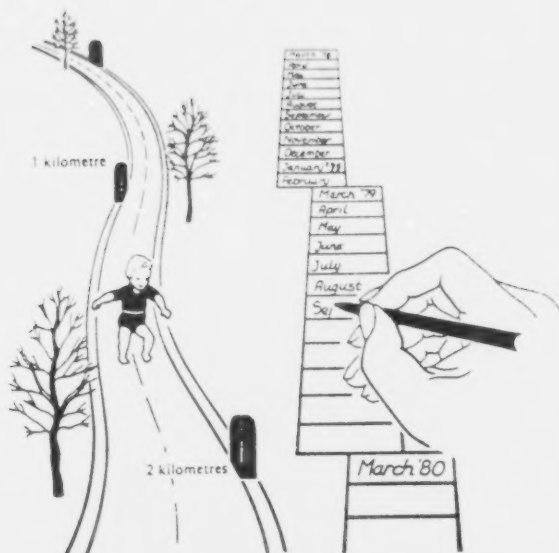


FIG 3.2 The concept of a relationship between growth and time is brought out with the chart. Note that the birth month is filled in at the beginning of each year before the rest of the months are written in.

Chapter 3 describes the lay-out of the standard growth chart in adequate detail to enable the user to develop it. The next Chapter on weighing children gives useful advice on how to get the basic data on weight for the chart. Among them are such practical hints as the following:

- In general, bathroom scales are inaccurate and unsuited to child weighing.

- The small movements of the platform of an adult scale may frighten the child.. All such scales should have a toddler bar attached.

III. THE GROWTH CHART - A HOME-BASED RECORD

With the assertion that the growth chart is an excellent example of appropriate technology, located in the community and a part of the interface between the community and the health care system, Chapter 4 makes a strong case for encouraging the mother to maintain growth charts for her children. "The presence of a written record in every home would be a great asset to any service reaching into the community", the authors say.

The advantages of home-based records can best be appreciated when the visitor to one household finds that other local mothers also want to show off her record. A visit to one child allows several children to be seen, and perhaps an unexpected problem is revealed.

They also discuss the advantages of these home-based records in clinic work:

"There are obvious advantages in the mother having a single home-based comprehensive record of her child's growth and health which she can take to other health facilities. These may be private medical practices, outpatient departments, or other child clinics. For example, a mother might move to another administrative area. In the case of a temporary move to other health facilities, details of the visits can be recorded on the card, and thus a constant record is maintained.

In some countries, there may be initial difficulties arising from a home-based system. In particular, some health workers are known to have strong views against mothers using more than one health facility. In an experiment in an Asian country, some private practices refused to look at or make entries in a take-home weight chart issued by the government clinic. Further, it takes some time for mothers to adjust to the new situation - they have

often been led to believe that each clinic has separate records, and that records are for clinics and not for mothers. Both mothers and health workers must come to realise that what is written down at one clinic is important information for other clinics or outpatient departments, as well as for visits in the home."

They examine and offer solutions to such problems as loosing and spoiling the charts due to conditions in poor homes. "Safe-keeping may also be encouraged", they say "by charging a small fee, and insisting that the cards belong to the individual mothers, not to the clinic. But the best way to ensure safe-keeping is by stressing the importance of the card to the child's health". They also offer suggestions regarding mothers who are illiterate but need to understand the chart:

The majority of mothers will be illiterate, and even the minority who are literate will have difficulty in understanding the chart. Few attempts have so far been made to discover the mother's perception of the chart. One study in West Africa (66) suggested that the mother understood the chart more easily if the weight was plotted not as a dot, but as a bar (Figure 5.1).

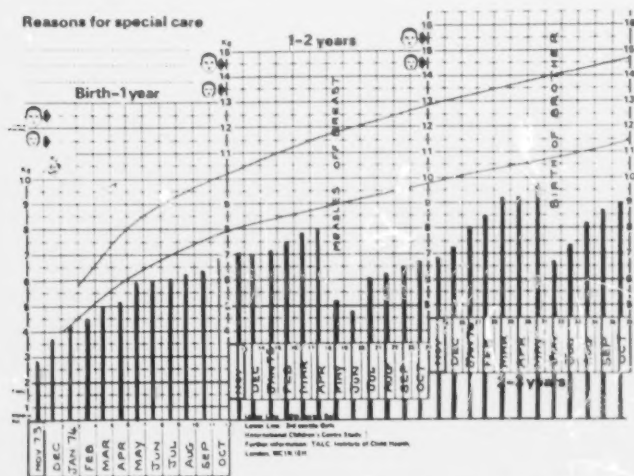


FIG 5.1 Mothers may understand the meaning of a bar chart (such as this) better than using dots to represent the weight of their child.

Those trying to help mothers understand their charts might well try this method.

 * A practical suggestion on weighing children by *
 * community groups (pages 61-62) indicates a *
 * very interesting and useful activity which the *
 * school in particular could organise for the *
 * village. While its contribution to the *
 * primary health care programme is clear, the *
 * educational value of such an experience to the *
 * children in school - apart from their direct *
 * involvement in a community activity - is also *
 * manifold. *
 * *****

IV. GPOWTH CHART FOR MONITORING MALNUTRITION AND OTHER DISEASES

Chapters 6 and 7 elaborate how the growth chart is used to monitor malnutrition and other specific diseases. Here, too, what is lucidly presented in the text is further underscored through illustration, of which reproduced below are the figures for Nutritional Marasmus Kwashiorkor and Keratomalacia due to Vitamin A deficiency.

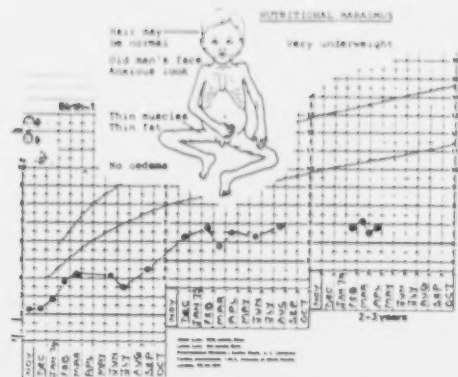


FIG 6.1 The typical features and the common weight chart of a child with marasmus. The majority of children with marasmus have shown inadequate weight gain from the first few months of life.

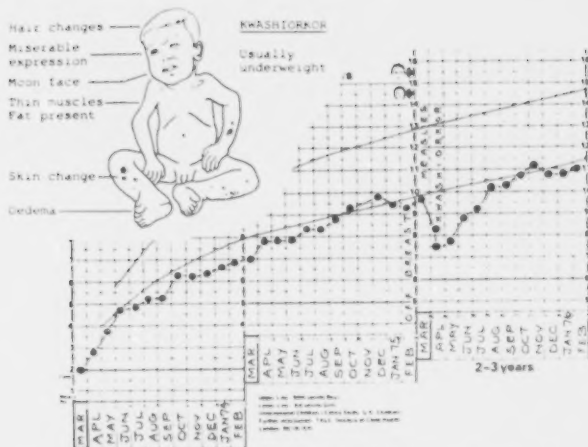


FIG 6.2 The main features and the chart of a typical child with kwashiorkor.

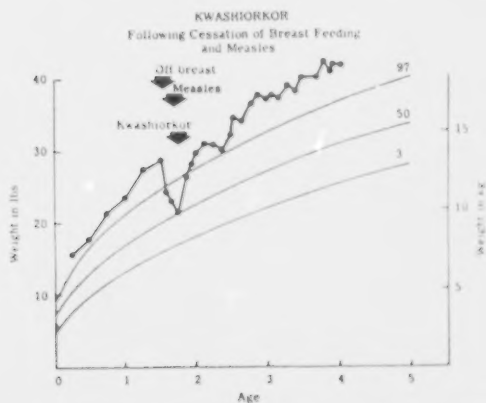


FIG 6.3 Kwashiorkor in a child of two-and-a-half, who had grown very well up to the age of eighteen months. The centiles given here are those produced by West African village children in the early 1960s (83).

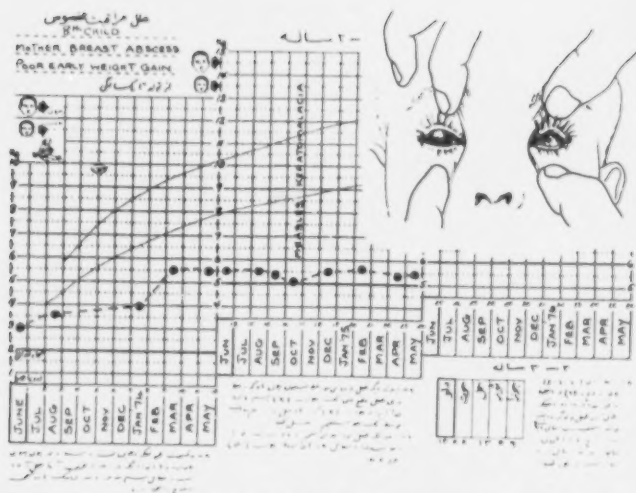


FIG 6.8 The weight chart of a child blind from keratomalacia due to vitamin A deficiency. The majority of such children show inadequate growth and some degree of marasmus. The chart used is in Arabic.

Chapter 7 discusses the Growth Curve in respect of specific diseases. Those analysed are severe measles, whooping cough, diarrhoea, tuberculosis, urinary infection, malaria and anaemia. More as a digression is given what could be used as a self-learning unit on oral rehydration, again, amply illustrated (pages 100-110).

 * Of special significance is the discussion on *
 * the topic of "Avoidance of malnutrition through *
 * education" which commences on page 76. In a *
 * dozen pages are summarized the problems of *
 * child nutrition with practical suggestions on *
 * the teaching and encouragement to be given to *
 * mothers with children at different ages - *
 * essential raw material to help design nutrition *
 * education programmes. *
 * *****

With the commendable faith the authors have in illustration, the whole text is succinctly summarised into a single diagram:

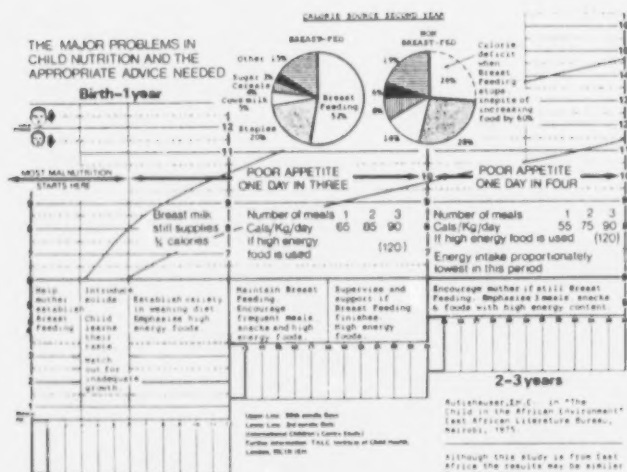


FIG 6.11A This highly complex diagram is described in full in the text. The upper part examines the problem of child nutrition, the lower half suggests the teaching and encouragement to be given to mothers with children at different ages.

The Chapter ends with an account of how villages could produce their own weaning food. The example presented is the Hyderabad mix prepared by the village level women's societies in India.

V. APPLICATION OF GROWTH CHARTS

Chapter 10 which offers detailed guidance on how to use the growth charts begins with the warning:

* "The growth chart is difficult to use *
* correctly. One must ensure that the correct *
* information is being collected, the infor- *
* mation is entered correctly and the health *
* *****

manage the graph. Those with no education who had learned to read off the weights and position the dots on the card had less difficulty. Similarly, in a recent community health examination set for those who had worked for a year, the one girl who had been through secondary school failed, and illiterate candidates took first and third place!"

In the following Chapter is discussed how the growth chart could be used to measure child nutrition in the community. Referring to actual experiences in Malawi, Zambia, Nigeria and Ghana, the authors show how the chart helps in planning and evaluating community health programmes.

* Another interesting device for measuring the *
* nutritional status of children is presented *
* in this Chapter *en passant*. Called the *
* Shakir strip, it is a piece of plastic or *
* string or any other material which is flex- *
* ible but does not stretch. It is used to *
* measure the arm circumference of children, *
* which the authors state to be "an excellent *
* indicator of nutritional status" with "the *
* important advantage of operational *
* simplicity". *

Growth Chart as a Measure of Child Nutrition

The Shakir Strip

This can be made from 1/2-1 cm of washed X-ray film coloured with a felt-tip pen and used on the middle of the upper arm.

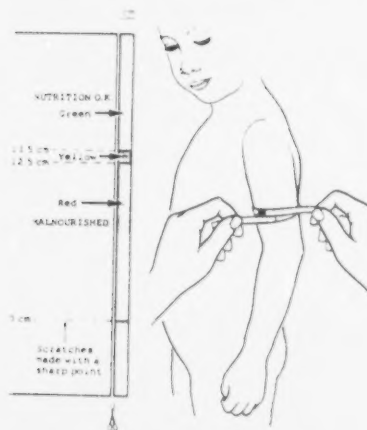


FIG 11.6 Most hospitals and clinics have old X-ray films. The emulsion has to be soaked in strong soda or bleach and then scrubbed off. When all the emulsion is off the plastic should be clear. Scratch the plastic with a sharp point in three places, at 0, 12.5 and 13.5 cm. Use a sharp point to make one single line. Colour both sides of the film and use the spirit type of felt pen, which smells. To use, place the strip round the arm so that it lies on the skin. Do not pull it tight so that the skin wrinkles.

VI. SOME MAJOR ISSUES IN CHILD CARE

For the other part of the book (i.e. what is not related to Growth Charts) belong five chapters which raise a number of very important issues connected with Child Care - namely:

- Chapter 8 - Breast Feeding and Birth Interval
- Chapter 9 - Child at Risk
- Chapter 12 - Community Involvement
- Chapter 13 - The Part-time Health Worker and the Growth Chart
- Chapter 14 - Adequate Physical Growth is not enough: the Child requires a Stimulating and Loving Environment

The contents of these chapters should be self-evident from their titles.

 * A strong case - illustrated with telling
 * cartoons and diagrams - is made for breast
 * feeding and longer birth intervals.
 * Chapter 9 analyses various at-risk factors
 * and urges that children who are considered
 * to be at risk need to be paid special
 * attention.
 * *****

Here, again, is succinctly presented a case study of
at-risk factors considered to be significant in a West
 African village:

TABLE 9.1 List of the seventeen parameters investigated as possible at-risk factors, and the nine factors that were considered to be significant.

Parameters investigated	At-risk factors considered to be significant in one West African village
Parental heights and weights	Maternal weight below 43.5 kg (96 lb)
Birth order	All birth orders over seven
The weight of the mother in relation to the birth order of the child	
Religion of the parents	
The marital system and parental care	Breakdown of marriage or death of either parent
Occupation of parents	
Family size and birth order	
Stillbirth and death rates among siblings	
Death among older siblings, and family size before the birth of the child	More than four sibling deaths
Seasonal incidence of births	
Weight changes during pregnancy	
Birth weight	A birth weight below the 10th centile (σ^8 2.4 kg, $\bar{q}$ 2.3 kg)
Twinning	All multiple births
Monthly weight increments during the first 6 months of life	Failure to gain 0.5 kg (1 lb) a month in the first trimester or 0.25 kg ($\frac{1}{2}$ lb) a month in the second trimester of life
Breast feeding and the introduction of solid foods	Breast infections and difficulties in breast feeding, particularly those secondary to psychiatric illness in the mother
Influence of disease in the first year of life	An episode of measles, whooping-cough and severe repeated diarrhoea in the early months of life.
Influence of malaria prophylaxis on the growth of the child	

VII. COMMUNITY INVOLVEMENT AND THE PART-TIME HEALTH WORKER

In Chapters 12 and 13 are a set of most useful guidelines on involving community participation in health care of children and the mobilization of part-time health workers. Convincing arguments are advanced on the advantages of specialists working with the people rather than for the people. The examples from a variety of countries with different economic and cultural backgrounds present interesting points for consideration.

* It is significant that several of these *
* examples highlight the point that if a *
* programme is to develop and spread the *
* need for the following has to be *
* recognized: *
* *
* - community preparation and involve- *
* ment from the start of the *
* programme; and *
* *
* - the co-operation with government *
* services. *

A good part of the message is in tables/pictures such as the following:

Go in search of your people. Love them. Learn from them. Plan with them. Serve them. Begin with what they know, Build on what they have.
--



FIG 12.7 Work first for the people not for the money. People are worth more.



TALK WITH PEOPLE

DO NOT AT THEM

FIG 12.4 Talk with the people, not at them.

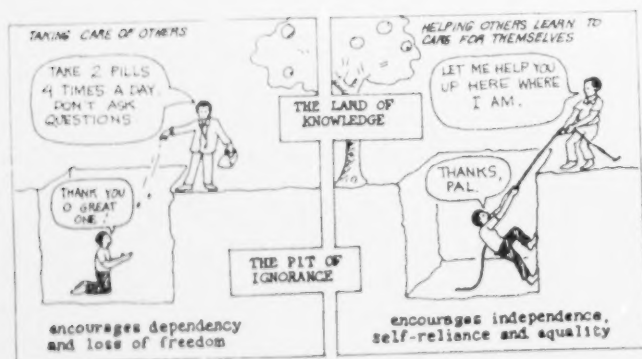


FIG 13.5 The different attitude of the part-time or village health worker to the patient. The village health worker can help doctors to learn the second approach.

TIPPING THE HEALTH MANPOWER PYRAMID ON ITS SIDE

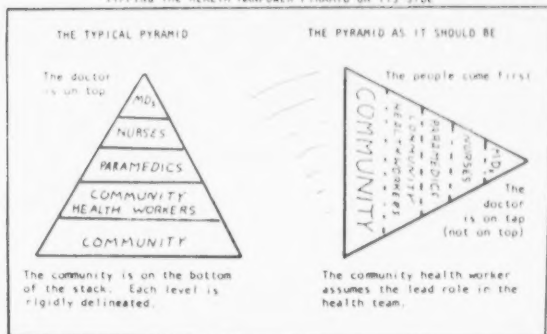


FIG 13.8 A new approach to the manpower pyramid: instead of turning it upside down, turn it on its side and break down the barriers separating the groups.

WHAT DETERMINES HOW MUCH THE PRIMARY HEALTH WORKER CAN DO?

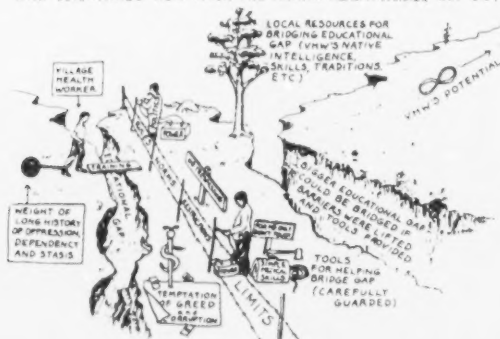


FIG 13.9 What the health workers can do is too often limited by external factors (such as the medical profession and politics), rather than determined by his personal capabilities and potential, or what the village would like him to do. The 'infinity' sign on the right of the diagram suggests the tremendous possibilities if he receives continuous training and encouragement.

The conventional doctor (with a few exceptions) and the part-time health worker (at his best) are compared and the conclusion is clear:

"If the village health worker is taught a range of skills, encouraged to think, take initiative and keep learning on his own, if his judgement is respected and his

limits are determined by what he knows and can do and if his supervision is supportive and educational, the chances are he will work with energy and dedication. He can then make a major contribution to his community and will win his people's confidence and love. His example will serve as a role model to his neighbours. They too can learn new skills and assume new responsibilities, (not only in the field of health) and accept that self-improvement is possible. Thus the village health worker becomes an internal agent-of-change not only for health care, but for the awakening of his people to their human potential - and ultimately to their human rights.

However, in countries where social and land reforms are sorely needed, where oppression of the poor and gross disparity of wealth is taken for granted and where the medical and political establishments jealously hold on to their power, the health worker so described may know, do and think too much. Such men are dangerous! They are the germ of social change."

 * The chapters provide many ideas on how *
 * community leaders and health workers are *
 * to be trained. *
 * *****

VIII. ADEQUATE PHYSICAL GROWTH IS NOT ENOUGH

The last Chapter under this heading is a strong plea that children need a stimulating and loving environment as much as they need health and nutritional care. The Chapter starts with an account of a study done in Cali, Colombia, where the impact of (i) medical care by itself, (ii) medical care and adequate food together, and (iii) a combination of medical care, adequate food and a stimulating environment was compared. The finding has been that in the group which was offered medical care, adequate food and a stimulating environment, it was possible to show that the children from poorer homes grew as well as those of the elite (namely, sons and daughters of university lecturers and the elite of the Cali Society) and their intellectual development was similar (Fig. 14.1 of p. 217). The authors came to the following conclusion from this study:

"We now question whether the teaching hospital or 'disease palace' in its present form has improved the health of the people living in rural areas and perhaps we should also question whether the present universities or 'teaching palaces' in the cities have done much to raise the educational level of the people. Most of the resources currently put into disease and teaching palaces should be diverted to provide simple health care and a more stimulating environment for the young child."

Following the account of the Cali study is a discussion on measuring motor development. Four of the more important measurements of development of a child are illustrated as follows:

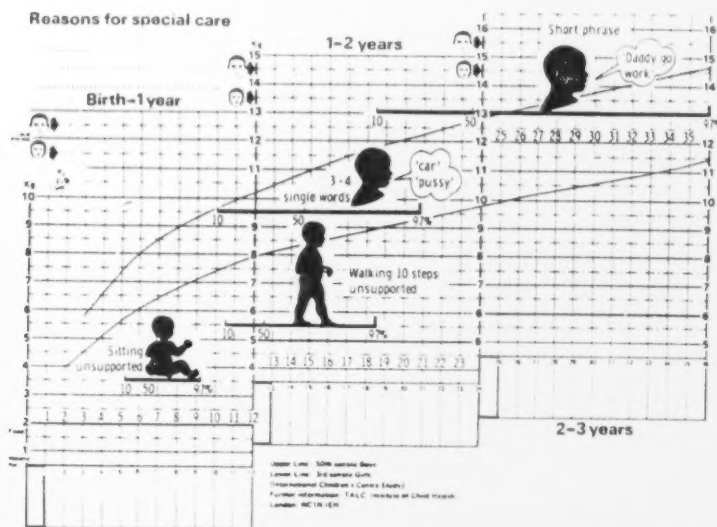


FIG 14.2 The age at which children sit up, walk ten steps unsupported, say three to four words and short sentences, with the centile variations when these are achieved.

The importance of these measurements is stressed in the following statement:

"If children are not sitting up by 9.5 months, or walking by 18.5 months, saying simple words by twenty-one months and putting short phrases together by three years, then we must urgently consider the possible reasons. In the industrial countries, the most probable reason is congenital abnormality, birth injury, or other illness which has delayed the child's development. These all play their part in developing countries, but there the additional factor of poor nutrition may be present, which may significantly delay the child reaching these milestones in his development."

As an example a more detailed description of behavioural development suggested for an Indian village is presented in tabular forms with codes O, T and A to indicate how the information is obtained: (O = observed by the health worker; T = testing, i.e. putting the child into a situation where the desired activity is likely to be undertaken; A = asking the mother: N.B. she always knows what the child is doing; but sometimes her concern for her child makes her unreliable):

TABLE 14.1 Indication of normal behaviour at different ages

Age	Behaviour
3 months	(O) Visually very alert, particularly interested in human faces. (O) Moves head deliberately to look around him. (T) Definite response to mother's voice either by becoming quiet or smiling.
6 months	(A/T) Can roll over from belly to back. (T) Placed downwards on face will lift head and chest well up, supporting himself on extended arms. (T) If held standing with feet touching a hard surface, the baby will bear his weight on his feet and bounce up and down actively. (A/T) The baby will show competent reaching and grasping of small objects.

<i>Age</i>	<i>Behaviour</i>
9 months	(A/T) The baby will sit alone for ten to fifteen minutes on a firm surface. (A/T) The baby can move on the floor by rolling or squirming. (A/T) The baby tries to crawl on hands and legs. (T) If the baby is held standing he will step on alternate feet. (A/O) The baby can distinguish strangers from known persons and can show distress to strangers.
12 months	(A/O) Can rise to sitting position from lying down. (A/O) Pulls himself to standing and lets himself down again holding on to furniture. (A/T) If the baby's hands are held he will walk. He may even walk without help. (T) Gives objects to adult on request (before this age he will not).
15 months	(T) Will walk unevenly with feet wide apart and arms raised for balance. (A/O) Speaks two to six recognisable words and understands more. (T) Points to familiar persons, animals, toys when requested.
18 months	(T) Picks up toy from floor without falling. (T) Shows his own hair, nose, eyes on request. (A/O) Demands desired objects by pointing and making a noise.
2 years	(A/O) Explores his surroundings energetically. (O) Runs safely on whole feet, stopping and starting easily to avoid obstacles. (A/O) Puts two or more words together to form a simple sentence. (A/O) Refers to himself by name. (A/T) Shows correctly when asked, his hair, hands, feet, nose, eyes and mouth and repeats their correct names.
2.5 years	(T) Jumps with two feet together. (T) Can stand on tip-toe if shown. (A/O) Uses the pronouns, I, me and you.
3 years	(T) Stands for a short time on one foot when shown. (T) Carries out simple conversations and talks about past experiences. (A) Likes to help with adult activities.
4 years	(A) Joins in play with other children. (T) Hops on one foot. (A) Climbs ladders and trees. (T) Gives connected account of recent experiences. (A) Needs other children to play with and is alternatively co-operative and aggressive.
5 years	(T) Runs lightly on toes. (T) Can stand on one foot for 8-10 seconds. (T) Can hop 2-3 metres forward on each foot separately. (A) Undresses and dresses alone.

The rest of the message of this Chapter could be best shown by reproducing some of the accompanying illustrations:



FIG 14.3 "Give me the child until he is seven and I shall give you the man".



FIG 14.7 No longer will many young European mothers leave their infants to dry themselves to sleep with boredom in an upstairs bedroom. They expect to have the child close to them as they do their daily work.



FIG 14.8 'School for mothers'. The young girl looks after her baby brother. In most developing countries, young boys and girls are given much more responsibility in looking after their young siblings. Perhaps industrial societies have lost an important opportunity for education in parenthood because children rarely care for younger children in these societies.



FIG 14.10 The young child should be bathed in words.



**Love
Growth
Confidence
Security**

FIG 14.12 Play between mother and child is part of love and care.

IX. BIBLIOGRAPHY AND INFORMATION NETWORK

The book concludes with a bibliography of 153 references and a very useful appendix on how the reader could strengthen his attachment to the international network of sources of information of primary health care and child development.

X. PRACTICAL IMPLICATIONS

The publication has several practical implications to UNICEF- and WFP-assisted projects such as the following:

- *****
- * A. Adoption of the Growth Chart described *
* in the book for recording progress made *
* in respect of basic services and *
* feeding programmes. *
- * B. Development of informational and in- *
* structional materials based on the *
* guidelines and case studies discussed, *
- *

- *
* utilizing appropriately the subject-
* matter lucidly presented in several
* chapters.
*
* C. Popularisation of the simple devices
* for weighing children and measuring
* their nutritional status, as de-
* scribed in the book and the promotion
* of a search for similar innovative
* approaches.
*
* D. Drawing pointers, ideas and guide-
* lines for preparation of projects and
* the design of activities related to
* community involvement in primary
* health care and the training and mo-
* bilisation of part-time health
* workers.
*
* E. Identification of research studies
* relating to health, nutrition and
* overall child development on the basis
* of studies discussed.
*

XI. CONCLUSION

The value of this publication as a basic text to orient project designers, field workers and teachers as well as administrators on the importance of primary health care and nutrition is so high that it has to be recommended as essential reading. A subsidy provided by the Catholic Fund for Overseas Development has enabled a paperback edition at a specially low price to be published.

COMMUNITY-ORIENTED TEACHER TRAINING: A POWERFUL TOOL FOR HEALTH CARE DEVELOPMENT

I. INTRODUCTION

In a large part of the world, particularly in rural areas, professional health care is not available and there is little awareness of what communities could do to improve their health conditions.

* Health personnel, when available, are often *
* ill-prepared for their tasks. Their teachers *
* frequently are unaware of, and seldom have *
* experienced personally, the conditions under *
* which many of their students will have to *
* work when they enter the field. Their train- *
* ing, in many countries, takes place in cities, *
* with a standard of living and a multitude of *
* other conditions that are radically different *
* from life in the rural areas in the same *
* countries. *

In the seventies, WHO, in collaboration with member countries, launched an innovative teacher-training programme, with emphasis on MCH care, which holds much promise for remedying this state of affairs. It brings the teacher-trainees to the type of place where their students will later practise, offering as a crucial element of their training the opportunity to carry out health promotional activities in the villages. The programme uses problem-oriented teaching as a form of education that can bring together theory and practice.

The benefits of this approach became clear early in the evolution of the programme in Sudan*:

- the trainees, teachers and supervisors gained in knowledge, understanding and skills, and in particular in their understanding of rural health problems and of how to promote health in rural communities;
- the inhabitants of the villages where some of the teaching took place learned how to improve their living environment;
- the trainees collected data on health status and used it in devising strategies for promoting health - a valuable demonstration of the potential of health-services research and of the good use of data obtained from questions formulated in part by the trainees themselves.

Several of those trained in the course are known to have effected useful changes in their teaching on their return to their schools. These results encouraged those who initiated the programme to repeat the experience in two other countries: Papua New Guinea and Cameroon.

II. PRINCIPLES ON WHICH THE PROGRAMME WAS BASED

(a) General: Communities can become self-reliant, in varying degrees, with regard to treating and preventing disease and promoting health.

* *Community health care workers should allow for* *
* *this potential, and stimulate and use it.* *
* *Since health workers must understand the dynam-* *
* *ics of community development, their training* *
* *must equip them with this understanding and* *
* *with all the skills they need to work with com-* *
* *munities. Their teachers should have at least* *
* *the same knowledge, understanding and skills as* *

* Awad, M.A., Edström, K., and Katz, F. Sudan: Teacher training gets out of the rut, World Health Forum 1 (1-2): 45-51 (1980).

* they expect their students to acquire, as well *
 * as the necessary pedagogical skills; their *
 * training must equip them accordingly, by means *
 * of practical experience in community health *
 * development as well as technical content. *
 * * * * *

(b) Training in teaching skills: The courses depend on experimental problem-based learning. As will be discussed below, trainees are stimulated to explore the potential and the shortcomings of this approach for their own teaching. They can use other modes of learning also, and they are encouraged to explore their strengths and identify their weaknesses.

* * * * *
 * They are expected to become particularly *
 * skilled in devising tools for problem-based *
 * learning, the mode of learning that seems best *
 * to permit teaching and the practice of *
 * community-oriented health care to be brought *
 * together. *
 * * * * *

(c) Practice in community health development: One of the crucial elements of primary health care, that it should be based upon and stimulate the potential of communities for self-reliance and self-care, requires on the part of health workers attitudes and skills that are neglected often in traditional teaching. It has not been usual for teachers of health workers to have had any experience of delivering health care under the conditions in which their students will have to do so, especially the exercise by communities of self-care and self-reliance in health promotion and health care.

* * * * *
 * Most teachers of health workers are still *
 * strongly oriented to disease rather than to *
 * health. *
 * * * * *

The courses have therefore focused on experience in health promotion work in rural communities, preparing the trainees by inviting them to study and discuss such matters as the dynamics of community development and how a community's latent energy for self-help may be mobilized.

(d) Learning technical knowledge: Clearly, teachers need both communication skills and technical knowledge, and good training aims at the balanced development of both.

* *Linking the technical skills to be acquired* *
* *with the important health problems earlier* *
* *identified in the village has great advantages:* *
* *it gives the trainees the experience of col-* *
* *lecting data (health research) and of using the* *
* *data for purposes of health care and community* *
* *health development.* *

III. PROGRAMME IN ACTION

The ultimate goal of the programme has been to improve health, health care, the management of health services in general, and education for health services.

* *It was clear from the outset that the pro-* *
* *gramme has the potential to induce change in* *
* *health care delivery, in the education of* *
* *health workers, and in the participating com-* *
* *munities attitudes towards health and health* *
* *care.* *

In view of the important role of community activities in the training programme the site of the course had to be reasonably close to village communities suitable for participation in the health promotional action.

 * The project directors were crucial figures in *
 * the development of the courses. Being in *
 * leading positions in health care in the vicinity *
 * of the teacher-training centres, they could *
 * easily contact provincial and local government *
 * authorities. As they were trusted and re- *
 * spected in the different villages they could *
 * facilitate preparatory activities. *
 * *****

The organizational and management design was not elaborated before the start of the projects but purposely deferred until it could be guided by the experience of getting the projects under way.

 * Consequently, external technical assistance *
 * was needed in working out both course content *
 * and the projects' organizational and manage- *
 * ment aspects. *
 * *****

In Sudan the collaborative work of the consultant and the local project staff soon resulted in a course programme in which communities were involved in both the planning and the implementation stages. The course co-ordinators, together with the consultant, designed the course in detail - an intensive and productive experience in learning-by-doing. In Papua New Guinea, curriculum preparation was linked with staff training in an identical way. But the community was less effectively represented in the course, particularly its direct involvement in course activities. In Cameroon local staff, with the direct collaboration of WHO staff, quickly and effectively assumed responsibility for the local project. Here again the learning-by-doing approach proved its value in staff training.

 * The community-oriented teacher training pro- *
 * gramme under discussion fits well with a basic- *
 * needs orientation in health development. It *
 * focuses on the improvement of living conditions *
 * *****

*
 * in poor rural areas, making use of the poten- *
 * tial of village communities for health devel- *
 * opment, and it is intended to inspire partici- *
 * pating teachers to stimulate their students in *
 * turn to work towards similar improvement in *
 * rural conditions and similar participation of *
 * communities in health development. To some *
 * extent success or failure will be determined *
 * by the relationship of the underlying philos- *
 * ophy to national and provincial development *
 * policy. *
 *

 * IF OVERALL POLICY IS PRIMARILY CONCERNED WITH *
 * ECONOMIC GROWTH, INDUSTRIALIZATION, ADVANCED *
 * TECHNICAL EDUCATION, AND HOSPITAL-BASED *
 * MEDICAL CARE, THE PROGRAMME STANDS LITTLE *
 * CHANCE OF SURVIVING BEYOND THE STAGE WHERE AC- *
 * COMPANYING EXTERNAL FUNDING MAKES IT TEMPOR- *
 * ARILY ATTRACTIVE. IF, HOWEVER, IT REPRESENTS *
 * AN ELEMENT OF A POLICY DIRECTED AT WIDESPREAD *
 * ALLEVIATION OF POVERTY BY THE INTEGRATED *
 * EFFORTS OF DIFFERENT SECTORS DIRECTED AT THE *
 * IMPROVEMENT OF THE LIVING CONDITIONS OF THE *
 * RURAL POOR, IT MAY BECOME A POWERFUL TOOL IN *
 * IMPLEMENTING SUCH A POLICY. *

The desired outcome must have the support of the edu-
 cational authorities. Ideally, the trained teachers return
 to their institutions with clear ideas about the changes
 needed in their teaching, and with the motivation to carry
 out the changes. The ability and willingness of the heads
 of the institutions to change, and of national educational
 authorities to permit such change, are essential conditions
 for success.

 * Project directors must seek the active support, *
 * if possible the participation, of those in *
 * charge of the education of the groups of health *
 * workers concerned, from an early stage in the *
 * planning of courses in order to avoid conflict *
 * and to regulate such matters as their correct *
 * timing; this helps to create the innovative *
 * educational climate that trainees will need *
 * when they set out to turn their attention into *
 * action. *
 * *****

The Appendix presents an outline of the course in each country. It is clear that the courses differ appreciably, as is to be expected with community-oriented experientially-based learning.

 * The needs and the characteristics of communi- *
 * ties are bound to differ from country to *
 * country and to influence the programmes; an *
 * educational programme of this type very much *
 * tries to meet individual learners' needs, and *
 * these needs vary from country to country and *
 * from discipline to discipline. *
 * *****

A unique aspect of experiential training is that a course based upon this approach will be developed to a considerable extent by the trainees themselves. The courses were not conducted on the basis of a prescribed curriculum context. Rather, those locally in charge of the project together with the external experts and the trainees developed the course from stage to stage according to the process of problem-oriented learning. This approach proved to be both feasible and effective. In each instance, at the end of the first course, the project director and the co-ordinators were capable of conducting further courses; also they could organize and conduct follow-up sessions for the trainees.

 * The teaching staff should be primarily con- *
 * cerned with creating a suitable environment *
 * and conditions for attaining the objectives. *
 * Learning materials can to a large extent be *
 * produced by the trainees. *
 * *****

 * The course design consisted roughly of *
 * three phases: an introduction, field ex- *
 * perience, and a longer phase in which the *
 * trainees worked at translating their course *
 * experiences into plans for improving their *
 * own teaching or supervision in their home *
 * settings. *
 * *****

For the field exercises villages could be selected that were not too far off, where leaders and people showed willingness - even enthusiasm - to participate, and which were served by a medical assistant or a trained midwife, or both. Also, there is a sufficient number of easily accessible villages to permit the project to use different villages for each course.

 * Experiential learning as the programme's *
 * core element presented no great difficult- *
 * ies. Consultants' reports on the courses *
 * they helped to set up note repeatedly *
 * that both project staff and trainees *
 * adapted rapidly and well to the experien- *
 * tial approach and that they seemed to enjoy *
 * it. *
 * Neither project staff nor trainees had *
 * previous experience with problem-oriented *
 * education. The teacher-trainees came from *
 * schools with very traditional curricula, *
 * sometimes highly irrelevant to the *
 * countries' needs and conditions. *
 * *****

* It seemed that the supervisor-trainees *
 * had been less influenced in this respect. *
 * *
 * In none of the three countries concerned *
 * were there any cultural impediments to *
 * the adoption of problem-oriented edu- *
 * cation, and the trainees found it a very *
 * stimulating experience. *
 * *****

The courses lay much emphasis on trainees preparing their own educational material and teaching plans. Only simple teaching aids are available and flip-charts and home-made posters or diagrams are used. The trainees much appreciate the experience of learning to produce their own educational material since one of their main problems is their school's lack of it.

 * The first part of the field activities is *
 * invariably a study of the community's *
 * health problems. In Sudan and Papua New *
 * Guinea this is done by means of a house- *
 * hold survey and a survey of medical rec- *
 * ords, focussing on cause-specific infant *
 * morbidity and mortality, and on fertility *
 * and family size. In addition the trainees *
 * gather general information on agriculture *
 * and the economy, diet, water and *
 * sanitation. In Cameroon the study includes *
 * also a physical examination and assessment *
 * of the health status of all infants up to *
 * one year of age. *
 * *
 * These surveys differ from usual health *
 * surveys in two important respects: the com- *
 * munity leaders and the people are directly *
 * involved in them, usually as volunteers *
 * taking part in the collection of the data; *
 * and their purpose is primarily to permit *
 * the trainees to present the findings to the *
 * community, to discuss with the leaders the *
 * possible solutions to the community's prin- *
 * cipal health problems, and to participate *
 * *

* with the community in solving those *
 * problems. Of course, the data gathered *
 * are also of importance to the health *
 * authorities. *

IV. CONCLUSIONS

Although the drawing of definitive conclusions about the significance of this novel approach to the training of teachers and supervisors of MCH/FP workers must await more experience with, and a proper evaluation of, the project, some indication of its positive and negative aspects can be given at this stage for the benefit of those who consider launching similar projects.

 * In the light of the goal of health for *
 * all by the year 2000 and of the key role *
 * of primary health care in attaining that *
 * goal, the programme can be said to have *
 * definite merit. *

It has brought substantial benefits to the participating villages when the field experience was well organized. Villages, communities, and village health workers and their supervisors have reported improvements in such important aspects of MCH care as reduction of gastrointestinal disease, more effective vaccination programmes, and family planning. Village committees formed to stimulate and guide health promotion are continuing their activities. As trainees, in one-year follow-up sessions, have had an opportunity to observe these relatively long-lasting effects it is reasonable to assume that this experience confirms for them the health worker's potential for inducing and stimulating community self-reliance in health matters.

Whether this kind of experience and the positive attitudes it should engender among teachers towards community health care and community participation leads to substantial

changes in the trainees' own teaching programmes cannot yet be assessed. In Sudan there are indications that MCH/FP training programmes are being improved.

* *Teachers' attitudes are an important factor* *
* *in improving the curricula of student health-* *
* *professionals but they are not decisive.* *
* *Lack of staff, deficient management, inad-* *
* *equately resources, lack of "respectability" of* *
* *new approaches, the influence of a conserva-* *
* *tive examination system, are only some of the* *
* *factors that may hamper attempts to improve* *
* *curricula. Teacher-training alone is not* *
* *enough; it has to be complemented by action* *
* *directed at such factors.* *

Teacher-training is one element of the strategy needed to achieve a well-functioning system of health services with primary health care as its basis. The programme under discussion is totally in keeping with the requirements of such a strategy and can reinforce the other elements of the strategy.

* *Cultural factors, e.g. a tradition of class* *
* *distinction, tribal rivalries, language dif-* *
* *ferences, affect the relationship between* *
* *health manpower development and health care* *
* *and consequently the feasibility of this* *
* *approach. These factors must be identified* *
* *and allowance made for them if health systems* *
* *are to be well organized and to function ad-* *
* *equately; this form of teacher-training may* *
* *assist in exploring them and in finding* *
* *solutions.* *

The programme described in this paper presented no great difficulties in Cameroon and Sudan; however, in Papua New Guinea the combination of a very difficult terrain with unpredictable village happenings and tribal differences led

to considerable problems in the organization of community-based elements. Despite such difficulties, it is worthwhile to persist with efforts to train teachers in community-based courses, because their students will encounter similar difficulties in delivering health-care services.

The cost-benefit aspects of these projects have not yet been studied properly. Further studies of the financing of current and future courses are needed to enable decision makers to decide how many courses they can afford within the scope of their health and education budgets. Cost may be the decisive factor in deciding on the number of teacher-training centres a country plans to establish. Cultural or linguistic differences may indicate a need for more than one centre, but there may be strong arguments against having more than one, especially when there are relatively few potential trainees.

SUPPLIES, EQUIPMENT AND DRUGS

Supplies and Equipment

Health Records, referral cards.
 Manual.
 Weighing scale, growth chart.
 Vision chart.
 Health education material (Pictures & posters).
 Thermometres.
 Needles, Syringes.
 Sterilizer.
 First aid kit.
 Dental Kit.

Drugs

<u>Tablets</u>	<u>Mixtures</u>	<u>Local applications</u>
1. Aspirin	1. Cough mixt.	1. Sulphacetamide eye drops
2. Paracetamol	2. Carminative mixt.	2. Tetracycline eye oint.
3. Vit-A	3. Kaolin mixt.	3. Benzyl benzoate emulsion 20%
4. Iron		4. Furazolidine
5. Piperazine citrate		5. Gention violet
6. Oral penicillin		6. Gamabenzyl hexachloride 1%
7. Tetracycline		7. Clove oil
8. Chloroquin		
9. D.D.S		

A CURRICULUM DESIGN
FOR TRAINING TEACHERS IN HEALTH CARE

APPENDIX II

Day/time	Lecture/Demonstration	Discussion	Exercise
1st Day AM	- Introduction - Aim & Objectives, teachers' role in primary health care - Introduction to training method & curriculum	Health for all by year 2000 A.D. Discussion on the curriculum & re-ordering it with the trainees views	-
PM	- Health education methods	How hygiene of children in school can be improved	Curriculum design for health education
2nd Day AM	- Screening for defective vision - Screening for hearing defect - Screening for growth defects - Description of the tasks, demonstration	-	-
PM	-	-	Practical experience in a class room in screening procedures

Day/time	Lecture/Demonstration	Discussion	Exercises
3rd Day AM	- Simple physical examination - Identification and treatment of common ailments and nutritional disorders in children - Use of drugs - Illustration with picture cards and cases	-	-
PM	-	-	Physical examination of children in a class room
4th Day AM	- Identification and quarantine of communicable diseases	-	-
PM	- Immunisation doses, administration, etc. - Demonstration of sterilization technique & injection	-	Practical experience in sterilisation & injection

Day/Time	Lecture/Demonstration	Discussion	Exercise
5th Day AM	- Introduction to oral & dental hygiene - Identification of dental carries, pyorrhoea, etc.	-	-
PM	-	-	Examine a class for dental carries
6th Day AM	- Introduce principles of first aid - Demonstrate important first aids	-	Practical training in first aids
PM	- Cleaning and dressing of wounds - Nutrition	-	-
7th Day AM	- Lab test - Haemoglobin - Urine albumin, sugar - Stool microscopy	-	Practical training in lab. tests.
PM		- Refresher sessions - Course of actions	Supply handouts reading materials, list of drugs, equipments Assign projects on main tasks

SUMMARY DESCRIPTION OF THE COURSES IN THE THREE
TEACHER-TRAINING CENTRES

I. SUDAN

Site: National Centre for Teacher-Training in MCH Care,
Barakat village, Gezira

Staffing - management and teaching: Project director,
course co-ordinator (health-visitor tutor), an
additional tutor, local consultants as required.
A local advisory committee.

Students: 15-18 per course - tutors from schools for
health visitors, medical assistants, rural mid-
wives and community health workers. Provincial
MCH supervisors.

Duration of course: 12 weeks.

Language of course: Arabic (one course a year in
English).

Field areas: Approximately 30 villages.

Organization of course activities:

- a) Preparatory phase:
- Selection of students by Assistant Commissioner of Health.
 - Selection by the project's advisory committee of three villages as field areas for the duration of the course.
 - Nomination of community leaders by the Sudan Socialist Union.
 - Project staff and trainees meet with community leaders and explain programme.
 - Design of questionnaires for village surveys and their distribution to village leaders.

- Village leaders complete the village-survey questionnaire and prepare for arrival of trainees.

b) Course implementation phase:

1. Four weeks

Introduction of trainees to one another. Educational methods. Study of how to carry out a health campaign in a community. Lectures on statistics and environmental health. Personal behaviour of trainees in village. Study of task-matrix. Begin preparation of individual teaching manuals and curriculum.

2. Three weeks (including first 10 days' stay in village)

Trainees collect information and check questionnaires already completed by village leaders; observe villagers' day-to-day activities, habits, and mode of living; survey health status of village and health services it receives. Selection of community volunteers. Trainees prepare the reports on the villages. Lectures to trainees on MCH/FP, child health; topics include vaccination, weaning foods, and oral rehydration. Trainees organize workshops for village leaders and volunteers to discuss with them the findings from questionnaires and to decide on health promotion activities.

3. Three weeks

Development of work-plan for the next stay in the villages, guided by the reports already prepared by the trainees. Preparation of teaching materials and equipment for village work. Preparation of posters. Technical lectures continued. Continuation of preparation of manuals and of curriculum planning.

4. Two weeks

Ten days stay in the village, providing antenatal care, child health care, training of volunteers, and health education of villagers, under the

supervision of local consultants. Back in class (Barakat), finalizing teacher manuals and curriculum plans. / Course evaluation, including questionnaires and self-appraisal by students. Graduation ceremony.

5. For one year, efforts by staff to provide continuous follow-up support to trainees in their own schools.

II. PAPUA NEW GUINEA

Site: Provincial Health Office, General Hospital of Mount Hagen.

Staffing: Project director, course director, tutor, local consultant as required.

Students: 12 per course - tutors from provincial schools for aid-post-orderlies, field supervisors (health extension officers, health inspectors, nurses).

Duration of course: 8 weeks.

Language of course: English.

Field areas: Accessible villages in the province - two villages for each course.

Organization of course activities.

a) Preparatory phase:

- Selection of students by the provincial health officer.
- Selection of villages and meetings with health workers responsible for those villages.
- Preparatory visits with these workers to the villages.

b) Course implementation phase:

1. Introduction - team building - baseline measurements

This phase provides the participants with an overview of the objectives of the course and the course content. This is followed by a series of exercises designed to create a comfortable, relaxed, and otherwise suitable learning atmosphere and to help trainees to develop a good teamwork approach to their training and for their teaching activities afterwards. Baseline measurements - problem-solving exercises which relate to service, teaching, and supervision provide opportunities for the trainees and staff to decide what the trainees can and cannot do at that time.

2. Studying the village and its inhabitants

During this phase the trainees spend 3 days preparing for the village study; they practise observing, interviewing, collecting, and analysing information. Six trainees go to each of the two village areas selected for the 5-day study and divide into two-person teams in each area, taking part in the daily village activities, observing the villagers' way of life and collecting information. They are encouraged to take up opportunities for health-related teaching of the public and to provide basic health care while staying in the villages.

On the fifth day the teams meet to analyse and present their findings to the village people. From the priority health problems identified the people will be asked to select two or three problems for which they would like help. Plans are then made for the trainees to return to the village for 1 day a week for the remaining 6 weeks.

3. Problem-solving - upgrading skills in MCH/FP technology

In this phase the trainees obtain practice in identifying, diagnosing, and solving some of the problems encountered during the village study.

Emphasis is laid on the practice and improvement of some of their newly learned skills at various service points and during their return visits to the villages.

4. Supervision and assessment

In this phase the course deals with the upgrading of supervisory skills, especially by helping the trainees to acquire the skills of planning and providing supportive supervision in such a way that it can have an important impact on the performance of health staff and through them on the health services.

Trainees develop tools for performance assessment, and test them in the classroom and in the field.

5. Educational planning and development of educational materials

This last phase is concerned with reinforcing the trainees' understanding and competency in preparing a teaching plan, being able to select and use teaching methods that help people to learn, and evaluating what has been taught. They are provided with opportunities to practise the teaching of some of the categories of health workers for which they will later be responsible either as supervisors or as teachers. They are encouraged to develop new teaching aids or adapt some of the available teaching material for their experience in this phase.

III. CAMEROON

Site: National Centre for Training of Trainers in Family and Community Health, Ngonga Village, Littoral Province.

Staffing: Project director, course co-ordinator, two additional tutors per course, local consultants as required.

Students: 15-18 per course - tutors from schools for nurses, diploma nurses, midwives, community health workers, and environmental workers and trainers of traditional birth attendants.

Duration of course: Two periods of 1 month each separated by a 3-4 months interval.

Language of course: French and Bassa.

Field areas: Seven villages in the canton of Ngonga.

Organization of course activities:

a) Preparatory phase:

- Selection of students by the project director.
- Preparatory meetings with villagers and village leaders.
- Planning and preparation of the course logistics.

b) First course-implementation phase (4 weeks)

The programme concept and the project are explained to the trainees, and they come to know one another and the population of the field training area. The methods of work are reviewed and the work plan for the 4 weeks is elaborated in the course. The main activities are:

- examination of the villagers (e.g. health status survey, population data, environmental survey), and analysis of data.
- collaboration of community leaders and volunteers with the trainees in community work.
- teaching/learning sessions to upgrade both technical knowledge and teaching skills. The evaluation by trainees of one another's and their tutors' performance is a continuous part of the learning process.
- health-care work, particularly antenatal care, obstetrics, and the identification of high-risk pregnancies.

- the trainees train community health volunteers.
 - a training programme is planned for traditional birth attendants.
 - preparation for students' reporting during the next phase.
 - evaluation of the first phase.
- c) Intermediate practice phase (3-4 months)
- the trainees practice their new educational skills and apply their technical knowledge in their own teaching posts.
 - the trainees prepare individual reports on their work and on the problems they encounter.

d) Second course-implementation phase (4 weeks)

Here the students present and discuss their reports from phase (c). They prepare brief resumés of the first phase, and a work-plan for this phase.

A brief village survey is made to record improvements in health status or other changes. The preventive work and health care in the community are continued as well as the teaching/learning sessions, with emphasis this time on child health. Teaching material is developed.

They train village health volunteers and TBAs and evaluate this training. In the last sessions the trainees plan their own work for when they return to their schools, plan arrangements for follow-up, and carry out an evaluation of the session.

- Digest No. 11^(*) Handbook for Educational Buildings Planning,
by Rodolfo Almeida
- Digest No. 12^(*) An Introduction to the Educational Planning
Process,
by Ananda W.P. Gurugé and Dieter Berstecher
- Digest No. 13^(*) From Planning to Plan Implementation:
An Introduction to Educational Programming
Techniques,
by Ananda W.P. Gurugé and Dieter Berstecher
- Digest No. 14** Moving Towards Universal Primary Education
and Literacy,
by a Joint Unesco-UNICEF Working Group
- Digest No. 15^(*) Manual for Teachers of Young Children
and other ECCE Personnel,
by Edith H. Grotberg
- Digest No. 16* Extending Basic Learning Opportunities:
Challenge and Response,
by Veda Prakasha, Ananda W.P. Gurugé,
Amewusika K.B. Tay
- Digest No. 17* Education and Primary Health Care,
by Bushra Jabre
- Digest No. 18** Early Childhood Development - Two Papers
on UNICEF Policy and Programming
by UNICEF
- Digest No. 19* Improving the Quality of Basic Learning
Opportunities: Challenge and Response
by Veda Prakasha, Ananda W.P. Gurugé,
Amewusika K.B. Tay
- Digest No. 20* Education for Child Survival and Development
in Africa
Contributions by R. Kagia et al.
- Digest No. 21* Some Recent Ideas on School Feeding
Contributions by C. Chicot, B. Levinger,
R. Loewald, R. Sack, S. Turner and J.
Frost
- Digest No. 22* Educational Assessment and Early
Intervention for Handicapped Children
in Developing Countries
by Kristen Kristensen, David Baine and
Marigold J. Thorburn

* Exists in French

** Exists in French and Spanish

(*) Currently out-of-stock